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ART. I.—THE EMPIRE'S EAST-END.

TWENTY years ago the East-End of London was regarded as a danger to the West. Sullen starvelings were said to haunt Hyde Park on holidays and scowl at the luxurious carriages and their occupants with envy, hatred, malice and all uncharitableness. Those were the days when a clever Irish lady answered a nervous friend's suggestion: "Oh! if the East-End were to rise," by the abrupt cry: "If I were the East-End, I *would* rise, too." Since then how times have changed! Whitechapel has become the fashion; Mile-end is a home of aesthetics, and the East-End has risen so that it can rise no more.

But there is an East-End still—a mighty region little known to the frequenters of Hyde Park, except when some hideous tale of wholesale suffering cannot be ignored. All sorts of contradictory accounts are then forthcoming, alike of the condition of India, its causes, and its cure. Sir O'Fishal Best, K.C.S.I., unrolls his tabular statements and proves that deficits are necessary and famine but a passing cloud. When Baboo Chatterjaw Goose tells him, in full Legislative Council, that the sorrows of India are all due to foreign domination, he points to the anarchy of the eighteenth century and prattles of the Pax Britannica. Then comes young Mr. Felix Potwit, of Grub-street, who knows the reasons of things and will prove to you in leading and other articles that the truth lies midway between the two extremes; adding that an empire founded by such men as Clive and Warren Hastings is the brightest jewel in the British Crown, especially since the establishment of competitive examinations.

Amongst all conflicting doctrines, one truth at least is plain. Ever since the reign of William III., the authority of the British nation in India has been supreme; the East India Company may have been for years the most convenient agent; but, from the very first incorporation, that Company's motto acknowledged this fact. There had been two rival companies

of merchant adventurers trading to the East ; and their rivalry led to debates which will be found epitomised in the part of Macaulay's *History* in which the end of the seventeenth century is dealt with. In its last year the amalgamated, or, as it was called "united," Company was launched with the device : "Auspicio Regis et Senatus Angliæ." Nevertheless, territorial acquisition was still no part of the Company's commission ; and for the best part of half a century their servants in India were content with factories—warehouses and offices—at a few points on the maritime edges of the land, somewhat in the same way as treaty-ports are still maintained in China. But to establish treaty-ports, the first necessity is, obviously, a valid power with which to make treaties ; and in the rapid decomposition of the Moghul Empire, the impossibility of anything of the sort gradually made itself clear. Theoretically the seat of that empire was at Delhi, and the rulers of the several provinces were only Viceroys or Lieutenants of the Emperor. Accordingly, the Company's agents endeavoured for a time to protect their operations by patents from Delhi and minor arrangements with the local Governors. Before the middle of the century, however, the French—always foremost in new paths—struck in, and fierce contests raged in the South-East of India. Then the Nawab of Bengal attacked Calcutta, and was overthrown by a little force of disciplined troops employed by the Company at Plassey. Eight years later the Company's servants obtained from the titular Empire a commission to administer Bengal ; but even then no territorial expansion was intended, nor even any direct rule over what the Company had already acquired.

Clive was well aware, in 1765, of the ease with which a march might be made up the country and the wandering heir restored at Delhi under British protection. But, after the battle of Buxar and the acquisition of Bengal and Behar, he gave up the Company's remaining conquests and pronounced that "to go further were a scheme so extravagantly ambitious and absurd that no Governor and Council in their senses can adopt it, unless the whole system of the Company's interest be first entirely new remodelled."* Warren Hastings, the other alleged founder, never annexed or conquered, unless the assumption of a few forts and fields that fell in by the misconduct of their holders can be so considered. The second map in Sir A. Lyall's excellent *Manual* quoted below shows that, at the end of his rule, in 1784, only Bengal and Behar, with the strip of coast from Ganjam to Masulipatam, the Madras *Jageer*, and the island of Bombay, bear the red colour of British power.

* Committee Report quoted in Sir A. Lyall's "Rise of British Dominion."

But in 1784 came a notable change. In that year Warren Hastings laid down his office, and Pitt's Bill became law, by which a parliamentary Board was made supreme in Indian affairs, with a Committee of four Directors of the Company for subordinate agents:—the beauty of this arrangement being that a member of the Royal Cabinet had ultimate power, while the blame could still be thrown on the Company whenever things went wrong.

The first Governor-General of British India who was appointed under this arrangement was a nobleman who had served—though not with much glory—as a military man in America; Oriental experience he had none. Cornwallis was by no means a man of extreme aggressiveness; nevertheless, it is remarkable that with his appointment began the forward policy which has ended as we see. It does not necessarily follow that a parliamentary rule must be one of conquest; indeed, the statesmen of that day—Pitt and Dundas—were most abstemious and conscientious in their professions and instructions. But there is the fact. In Sir George Birdwood's very valuable *report* on India Office records (p. 251) will be found a list of territorial acquisitions made in the Company's name from 1784 down to 1858, from which it is quite clear that the British flag was carried over a great part of Southern India by Cornwallis and over a great part of Northern India by his successor, Wellesley, while the Board of Control and its "Secret Committee" continued to breathe caution from London. Nor can it be fairly pleaded that these things were due only to the distance and the delay of communications; there was the Overland Mail in Dalhousie's days, and no one made more annexations than Dalhousie.

At the same time a non-acquisitive school was always open, in the country and even at home. The illustrious soldier-brother who was Wellesley's right-hand in all his wars, and several of the officials formed in Wellesley's own office, were opposed to aggression; nay, Wellesley himself recorded his conviction that it was only the duty of his government to "resist unjust attacks," and that it ought to be "equally determined to respect the just rights of other States as to maintain its own." Sir Thomas Munro even denounced the "subsidiary system" introduced by Wellesley as tending to demoralise the native States; Mountstuart Elphinstone and Sir John Malcolm held similar opinions; the Marquis of Hastings aimed only at making the British Government "paramount" over the other powers. Thus there has always been a force acting, though not always with equal strength, against the aggressive or expansive energy; and the net result has been:—

- I. That at this day over one-third of the territory of India is still under Native rule; and

2. That the inhabitants of this large section of the Indian peninsula are as numerous as the population of Germany and France combined.

But if it be true that conquest is over, and the idea of annexation obsolete, we cannot go on to say that the spirit of encroachment is altogether flown. There will probably be found among individual citizens, and even among well-informed experts, a representation of two extreme opinions. There will be a number of optimistic experts who will magnify their office. British administration has doubtless been beneficent in many ways to India ; cruel practices have been put down ; a Penal Code has been introduced which is not only a fine work of legislation, but tends to become a kind of scriptural authority and standard of morals. Perhaps no other single achievement equals this ; but universities have been founded, many factories established, commerce extended and peace maintained ; all noble contributions to human welfare. On the other hand, there are critics, some of them not less informed than the experts, who point to a pullulating population of paupers of whom nearly 80 per cent. are dependent on agriculture under treacherous skies, alarmed and harassed by laws which they cannot understand and fiscal demands which, though not heavy, are inevitable as laws of natures.

All this makes the continued existence of native States alike useful and interesting. Their usefulness arises out of the faculty that they have of offering a career to indigenous ability ; such men as Salar Jung, Dinkar Rao, and T. Madhava Rao, in British India would have, perhaps, been Deputy Collectors or Judges of Small Causes ; in native States they proved rulers and reformers whose fame went beyond Indian limits. And a special interest arises out of the illustration that native States afford of a possible ultimate solution of the problems presented by British India. If ever an earnest, impartial enquiry were made into the condition of these territories, it might be found that the public welfare would be best promoted by the system adopted by Warren Hastings and endorsed by Munro and by Mountstuart Elphinstone—in a word, native administration under European impulse and control.

These native States have received various class-titles, sometimes distinguished as Protected or Allied ; sometimes called Feudatory, their generic denomination at present is "Internal States," as not lying on the frontiers of the empire. Alike in point of past history and present dimensions some of them are of considerable importance. For example, Hyderabad, Baroda, Indore and Gwalior, with, above all, the ancient group of Rajputana ; the first of which represents an old Moghul Satrapy, the second are portions of the famous Mahratta Confederacy, and the third is a group of Hindu

principalities, larger than the kingdom of Prussia and older than any European nation. Then, there is Mysore, originally an Independent State founded by a scion of the old dynasty of Bijanugger, and still ruled by a Raja of that house to whom it was ceded so late as 1881; and there is the fair valley of Cashmere, conferred upon a friendly Chief by Lord Hardinge after the conquest of the Sikh Army in 1846.

All these States exhibit a great and growing population, aggregating nearly sixty-four millions at the last census. They have adopted modern principles in civil administration and maintain a small but efficient military force in each case, while the chiefs know that misfeasance renders them liable to deposition and exile.

Now, the chances in favour of this system over one of direct British administration are by no means inconsiderable. Not only is the latter method beset by financial and other difficulties; it is also open to the objections brought by Munro against the much less direct action of Wellesley's "subsidiary system." One of these objections was its inevitable tendency to bring every native State under the exclusive dominion of the British Government. . . . One effect of such a conquest, so Munro urged, with wonderful foresight, "would be that the Indian army would gradually lose its military habits and discipline . . . to feel its own strength and turn it against its European masters." This was written over seventy years ago, and the process of time has made it good. All India has passed under British dominion, and a great part of the Indian army has turned its strength against its European masters. A flaw, still more deplorable on moral grounds, was pointed out by the same vigorous and experienced observer: wherever British administration came, freedom from the perils of Oriental methods "was purchased by the sacrifice of independence, of national character, and of whatever renders a people respectable."

On the other hand, there are the benefits of civilisation, some of which have already received notice here, and have been admitted to have done great good to India. As the late Michael Katkoff generously declared, more than ten years ago, in the *Moscow Gazette*, the British "have been the saviours of India." But this, as Katkoff showed, was not the result of direct introduction of British methods and institutions, so much as of the enforcement of peace and order, which would be equally possible even if there were not one white official in the country outside the Presidency towns.

Such centres of European industry as Bombay and Calcutta are of the nature of Crown Colonies, and may safely be treated as such—as indeed they have always been. But, apart from such

special cases, we have still to enquire, patiently and anxiously, whether a vast region containing hundreds of tribes, and scores of nations in almost all conceivable states of backwardness, is a fit soil for the transplantation of ideas and practices which have grown up in Western Europe from such different roots and in such varying conditions. Our insular life is quite exceptional, even in Europe, influenced by *Magna Charta*, the modified Feudalism of the Plantagenets, the semi-reform of religion under the Tudors, the political changes of the seventeenth century, and other movements more or less peculiar to ourselves, and quite unknown—or at least quite unfelt—in Oriental countries.

Further, there is this to be weighed, the population of India is about equal to that of the whole of Europe, while the resources of the British State there are comparatively small and inelastic; consequently, measures of administration, which appear in these islands to be necessities and matters of course, are possible in such a country only if carried out in an inexpensive and most imperfect way. And it may well be that a civilised administration conducted "on the cheap" may lose whatever advantage its exotic nature may have left it, and prove worse in the end than any amount of barbarism that does not offend decency or affect life and property.

It is true that an enquiry into the comparative advantages of British and Native administration was instituted in the Viceroyship of John Lawrence about thirty years ago. But that enquiry was conducted by British officials, who—with the best intention—were most unlikely to lay before a Viceroy who had risen from their own ranks a disparagement of their own procedure. Moreover, in thirty years and after sundry chiefs have been admonished and chastised, it is not unlikely that native rulers have improved and become more efficient. The restoration of the old dynasty in Mysore is not understood to have caused any mischief; whereas it is certain that in British India health, wealth and happiness have decreased and come into jeopardy.

It is a common-place of political history that backward races are bound to suffer from the impact of foreigners of better organisation and energy who settle among them. How much more likely is such a thing to happen when the new comers are people "with a mission." It is not only the attempt to destroy indigenous creeds and substitute the alien belief on religious subjects; that special form of the danger is, perhaps, obsolete; vanished with the narrow fanaticism of the famous Punjab school of forty years since. But the idea remains the preconceived opinion with which almost every earnest Anglo-Indian starts on his career: that is to say, the axiomatic

assumption that "the East is played out," and that Orientalism can produce no useful principles or practice. In John Lawrence's well-known words; "In labouring for the people of India we are to be guided, not by their conscience, but by our own."

Now, of course, in so far as the Indian conscience may have been depraved below the average level of humanity, this is self-evident, and must be admitted by the best of the natives themselves. Thus, when in 1829, Bentinck called for opinions as to the cruel rite of widow-burning, he experienced but little opposition. The reports, indeed, showed that there was no true antithesis between "our" conscience and that of the people, the question being one not of principle, but of practice; and the rite was abolished without opposition, save from a few cranky Englishmen. The same spirit will be found in all the most successful reforms; but hesitation may still be excused when we come to administrative details, where conscience need not be very scrupulous, so long as success can be obtained.

The subject is complicated and hard to deal with in a popular way: but what has been here advanced is not really very abstruse. The old Company's settlements were made neither for the acquisition of dominion, nor for the propagation of ideas. Greatness was thrust upon the Founders, partly by Moghul weakness, partly by French jealousy and ambition. In the language of Adam Smith, they established an empire to acquire customers. Instead of making trade follow the flag, they made the flag follow trade. Then, when the flag was flying on Fort St. George and Fort William, the acknowledged organs of British power stepped in, and the acquisitions of the Company were put under official control. The noble Governors sent out, with the support of Cabinets, soon set aside the authority of what they called "the cheesemongers of Leadenhall Street;" and the interior of the country became more and more a British Province. When Bentinck met Ranjit of Lahore, in 1831, he showed the Sikh chieftain, amongst other things, a map of India; and, on the latter being told the meaning of the red tint, he muttered "*sub lál hojaega*" (*all will become red*). The prediction was nearly fulfilled when the process was arrested by the Mutiny. We have still an opportunity of evading what we might, perhaps, find a damaging inheritance of the old annexing officials.

As an illustration of the dangers and difficulties attendant upon introducing exotic ideas into a land like India, the recent results of sanitary reform will be found instructive. The cases of eight municipalities being taken, it was recently found that, whereas the death-rate prior to the introduction of sanitary

works averaged 30·5, it had since risen to 32·8. It is not easy to account for such a result, unless it be that the funds raised are insufficient to ensure complete scientific arrangements; and, without such sanitation, may do more harm than good. In Bombay, the first commercial city of the Empire, where nearly six hundred thousand Rx., or conventional Indian £, are spent annually, the Bluebook of 1894 says: "The demands upon municipal resources are peculiarly heavy . . . the revenue has grown by 57 and the expenditure by 49 per cent. in ten years . . . The incidence per head is . . . 3·90 rupees in 1881, and 6·29 in 1891." And it is in Bombay that the plague was lately raging worse than it ever did in Constantinople.

The existence of these calamities is undeniable; and the inference that they are caused by some fault in the administrative machinery is but natural. Whether they exist, to a similar degree, in the provinces administered by the native governments that have arisen naturally, and, so to speak, out of the soil, would perhaps be worth ascertaining. One thing is clear: the men by whom the British Provinces are administered are, for the most part, aliens; and their official superiors are, if possible, stranger still. The District Officers, if they are only left long enough, learn to know their districts, the wants, habits, and desires of the people. But the advisers of the Viceroy are not chosen from this class; they rise from stool to stool in the Secretariat, and form a sort of apostolical succession of mechanical optimism: their experience is bounded by statistics; of the land itself they know no more than what they see from the windows of the special train that conveys them from Calcutta to Simla in Spring, and back from Simla in the Autumn, after the annual shower of Stars-of-India.

One lesson, indeed, these gentlemen have learned. They have ceased to annex territory. But that is not enough: the annexing spirit must be exorcised: they must cease to annex the thoughts and hopes of the natives; to confiscate their self-respect, as Munro said, and to make war upon the national conscience.

One great and grievous fallacy of the system is to point to the increase of population as a sign of the growing prosperity of British India, whereas it is the exact reverse. Such density as exists in parts of the country, without any corresponding increase in the means of subsistence, is a sign of reckless fecundity and an omen of ever-deepening distress. There are many rural tracts where a human being has no resource but agriculture and but half an acre of land to live on.

The late Earl of Lytton once said that he was firmly

convinced of the omnipotence of the Government of India, "because it had made a Lady of Sir O'Fishal's wife, which God Almighty Himself could not have done." But there is one thing that even the Government of India cannot do, and that is to make the monsoons regular. So long as that is the case, the Pax Britannica is a source of danger if it adds to the numbers of a population dependent upon such conditions; and we can only say, in the words of Holy Writ: "Thou hast multiplied the nation but not increased the joy."

ART. II.—MAPPILLA FAITH AND FANATICISM.

ON the South-Western coast of the British Indian Empire lies the lovely and well-favoured province of Malabar. It is a region of historic renown and of exceptional ethnological interest. More than twenty centuries ago its littoral was known to the Greeks and Arabs. In the *Periplus* and other works of that remote period, it finds frequent and prominent mention. Ships from Tarshish and from Tyre visited it and carried away gold and precious stones to help in the building of Solomon's Temple at Jerusalem. Later on, when Portugal was at the zenith of its power and splendour, at the end of the fifteenth century, the gallant De Gama, "with a bold, advent'rous band," set sail from Lisbon to find America, and found Malabar instead. His most powerful rivals there proved to be the Arabian Mahometans, or Moors, as the early writers called them, who had already founded flourishing colonies and established influential trade connections in several parts of the East Indies, which dated back from the time of the Ummayide Caliph Walid, A.D., 705—15. Their sailors and settlers, who had occasion to sojourn in Malabar, founded and established their own mosques and imported their own religious teachers. The emigrants consorted freely with the comely Hindu women of the province and thus laid the foundations of that hybrid race which came to be designated Mappillas (from *Maha*—great, and *pilla*—child).

From Arabia the sacred Koran, "God's chiefest gift to men," was transferred to the palm-groves of Malabar, and it took a wonderfully firm hold of the newly-begotten race. But, gradually, as Arab ascendancy waned and as the Mappillas grew in numbers, beyond the influence of cultured Arabians, they began to place strange and quixotic interpretations on the lore contained in the sacred volume which the Angel Gabariel had handed down to Mahomet from the lowermost storey of Paradise. There arose preachers and expounders of the creed of creeds whose teachings nourished the frenzy and fervour with which the new Moslems were imbued by reason of their paternity; and amidst it all was ever present a burning desire to spread the Gospel of the Koran among the infidels.

In Malabar abundant material lay ready to hand in the outcaste Cherumer, Kannakkan and Polaya serf races of the province. The yoke of the high caste Hindus fell with cruel weight on these slave races. They durst not walk on the highways or in the byeways. They were forced to dwell in swamps

and marshes, far worse off than the wild beasts that disturbed their slumbers. They could not go where even their vile pariah dogs could. They sustained existence on the sorriest and scantiest fare. Every moment their lives were at the mercy of their haughty overlords. To such unfortunate creatures, how beautiful must have been the music of the message of deliverance that the preachers of the Koran brought. What glory and felicity did it not mean to become a Mappilla. No more wretched slavery; no more grovelling in the dust at the approach of the high caste *Vere de Vere*. The tragedy of life would be changed into something glorious and beautiful. What wonder that converts came freely to the banner of Islam, or that the scimitar and the torch—the two great agents of Saracen evangelisation—were not much in requisition? Here were far more powerful inducements at work, and they were moreover of a tangible nature, such as could appeal to gross minds.

The cause of Islam prospered as far as numbers were concerned, and at the same time it was clear that a great psychic effect was being produced on the Moslem renoncants. From a very low form of demonology they had stepped forward to a profession of one of the great religions of the world. They were asked to renounce the teachings that had been instinctively and intensely theirs for generations upon generations. They did so to some extent. But they were too crassly ignorant to grasp the higher ideals and principles of their foster creed. Their moral fibre still remained impervious to change. Their intellect refused to improve;—or, to speak more correctly, there was no attempt to improve it. As for their material status, as apart from their social position, its improvement—was—imperceptible. After all, the only change was that the emancipated serf could now fearlessly hold up his head and walk on the highway, or build him a habitation in some favourable quarter. He might own land and make money if he could. There the list of benefits ended.

It is not in the power of the religion of Mahomet to improve the material condition of its votaries, for Mahometanism, forgets, in the first place, to improve their intellectual condition. If this is true of that higher form of Mahometanism which one meets with in the West, it is infinitely truer of the Mahometanism that prevails in Eastern lands; and, as the Malabar races, on whom the faith of Islam took hold, were sunk in abysmal depths of ignorance, the psychic effect on their minds was merely to create and nourish a rank, fiery, soul-absorbing fanaticism—the parallel of which it would be hard to discover anywhere in the world or in the pages of religious history. Doctrine and ritual came, little by little, to be

interpreted in marvellously original and ingenious ways. The religious teacher, himself ignorant and unequipped for his task, directed his teachings exclusively to the ignoble end of fomenting discord between the "faithful" and the "infidel." He was doubtless conscious of the fact that it was mainly by nourishing the spirit of fanaticism that he could keep his hold on his low, unlettered adherents, and succeed in propagating the religion that had, by an irony of fate, been consigned to his tender mercies. As the numbers of the faithful increased, the few material advantages which the early proselytes enjoyed grew painfully less, and in a land like Malabar, where the aristocracy have ever been despotic, this meant that the bulk of the Mappillas had to take a very subordinate position indeed.

Mahometanism is all very well, but it never yet filled the poor man's belly. The rich Moors were not numerous, and the majority of their co-religionists had therefore to slave for Hindu masters, or turn tenants under conditions that were decidedly hard. This led, in the old pre-British days, to frequent distressful occurrences of the kind that still continue to be enacted now and then. But the fanaticism of to-day is exclusively limited to the two Southern Taluks of Ernad and Walluvanad. Elsewhere, the Mappilla is as peaceable as you like, and has learnt to respect the British *raj* and its moral and physical puissance. Naturally, the question arises, why Ernad and Walluvanad should remain untamed and untameable. Well, firstly, because it is there that the majority of the Mappillas are descended from the lowest Hindu races—the serfs; and the germs of fanaticism are easiest bred in the hearts of the lowest and most uncivilised races, as we see in the case of the Soudanese Arabs. In other parts of Malabar, a fair proportion of the Mappillas are descended from the higher Hindu races. In Ernad and Walluvanad, their ancestors, almost to a man, had been meek, submissive slaves. It is invariably on such people that Islam has the most baneful effect. Secondly, in Ernad and Walluvanad, you meet with nothing but wild hill and jungle, intersected by no roads, containing no industries that could sustain a congested and prolific and unthrifty population. The vast stretches of meadow and jungle, the hilly fastnesses, the dense timber forests, all belong to heartless landlords, many of whom are absentee and are represented on the spot by avaricious and rapacious agents or *Kariasians*.

Amidst such scenes and conditions the Mappillas live. They overrun the land, but the land cannot bear the strain of supporting them. The landlord or his agents impose the most impossible conditions on the peasantry. Rack-renting maddens the soul of the slaving tenant. The landowner's satel-

lites must be propitiated every day of the year. The dishonest minions of a paternal Government understand the cruel art of sucking blood out of a stone. What is the result? Poverty, wretchedness, and, therefore, bitterness of heart. What the solace? Crime and lawlessness always, and bloody fanaticism whenever the chances offer. Seditious priests go round the country secretly telling the down-trodden peasantry that, against the infidel who oppresses them, it is holy and wholesome to wage war to the death. All over the Taluks are mosques and tombs which commemorate the glorious deaths of hero martyrs who had perished bravely while fighting for the sake of the one true faith. Mappilla homesteads are filled with the stirring music of war songs written to perpetuate such deeds of glory. The songs are rude, but there is passion and frenzy and fervour in them, and they stir the hearts of the impulsive Mappillas to the core. "Let me make the songs of a nation," said Fletcher, "and you shall make its laws." And the maker of these Mappilla war songs, or *gitans*, has wielded greater influence over his people than ever the law-giver has done.

There is a terrible power in some of the songs. They may be written in the vilest doggerel, a strange and pitiful mixture of Arabic, Sanskrit, Tamil and Malayalam, but the sense of them is taught to the people by their religious preceptors. That is enough. History has before now filtered down thus to the masses. Priests and old women and zealots tell tales of wondrous miracles wrought by those whom the bard has immortalised and who have attained Paradise. The songs themselves give wonderful descriptions of Paradise and its houris, and tell of how the delights of houridom may be reached. Does an infidel landlord grind down the face of his Mappilla tenantry, or does an infidel embrace the faith of Mecca and then insult it by an act of renegadism? Does an infidel insult the holy religion, or endanger its safety, or defile the sanctity of the sacred house in which Allah is worshipped by the faithful? These are all mortal sins, these insults to the faith of the Mappilla. Blood and blood alone can wipe them out. Stealthily, the firebrand Mollah moves from house to house, complaining bitterly and eloquently of these insults, fanning the dormant sparks of that fanaticism which he knows but too well will kindle into flame on some near day, drench the fields and meadows with blood, and bring hundreds of white soldiers, against whom it is glory to fight and to die, because death is but the opening of the golden gates of Paradise.

To afford the reader some idea of the fanciful nature of the Mappilla's religion and the sort of inspiration by which his

bards are fired, I give below a translation of a portion of a highly-popular war song written by a Hindu convert to Moslemism :—

“The soul in our body is in the hands of God. Can we live for ever in this world? Must we not die once? Everything will die, but God alone will not. Such being His Commandment, we shall have no excuse when we are brought before Him after death ; so determine earnestly to fight and die. If we die fighting with the wicked men who attempt forcibly to burn this holy mosque, which is the house of God, we shall obtain complete salvation.”

The occasion to fight and die is likened to a vessel that has come to bear the faithful to the shores of bliss. It will bear them to the broad gates of heaven.

“Is it not for the arrival of such a vessel that we should pray?”

“The pleasures of wealth or family are not equal to an atom of celestial happiness. Our most Venerable Prophet has said that those who die in battle can see the *houris* who will come to witness the fight. There is nothing in this world to compare with the beauty of the *houris*. The splendour of the sun, of the moon, and of the lightning, is darkness compared with the beauty of their hair which hangs over their shoulders. Their cheeks, eyes, face, eyebrows, forehead, head are incomparably lovely. Their mouths are like corals of gold ; their teeth like the seeds of the *thali* flowers. It is not possible for the mind to conceive the loveliness of their breasts and shoulders. If they spit in the sea, the salt water becomes as sweet as honey, as fragrant as *attar*. If they were to come down to this earth, and smile, the sun, moon and stars would be eclipsed. Mortals would die if they but heard the music of their voices. When they wear red silk bordered with green lace of seventy folds, their skin, muscles and bones can be seen through. Such is the splendour of their body. If they clap their hands, the clash of their jewels will be heard at a distance of 500 years' journey. They clap their hands and dance and sing as they come like swans to the battle-field. If a human being were to see their beauty, their dance, or their smile, he would die on the spot. Gently they touch the wounds of those who die in battle ; they rub away the blood and cure the pain ; they kiss and embrace the martyrs ; give them to drink of the sweet water of heaven and gratify their every wish. A horse caparisoned with carpets set with precious stones will be brought, and a voice will say: ‘Let my men mount ; let them dance with the celestial *houris*.’ Then the celestial coverings will be placed on their heads, they will mount the beautiful horses, which will dance and leap and take them to heaven, where they will live in unbounded joy.

"Such is the fate that awaits those who die fighting bravely. At the dissolution of the world, they will be sped like lightning over the bridge across hell. In heaven they will attend the marriage of Mahomet. They will be decorated with bunches of pearl and crowns of gold; they will be seated on the tusks of Mahomet's elephant and enjoy supreme happiness. All their sins will be forgiven, and God will listen to their prayers."

When songs like the above go deep down into the heart of an impressionable people whose Paradise is materialistic and appeals to the gross fancy, what wonder that, egged on to bloody fanaticism, the submissive turn into heroes, and, forming the desperate determination to die valiantly, rush out sword in hand? Insidiously, the flame is kindled. The preacher has preached his pernicious doctrines. Their seed germinates in the breasts of some of those who have listened and pondered. None who hear—not even those who do not care to become *Sayyids*, or martyrs—will dream for one brief second of turning on the preacher. No Mappilla ever fell as low as that. With the utmost secrecy meetings are convened. By night the would-be martyrs, thirsting for glory, meet in some lonely recess in the jungles. War-knives and guns and ammunition are surreptitiously collected. The preparations may last days, or even months. Then come the sacred days of the *Ramzan-ki-Roza*, and the time is ripe for action. What though the religion of Mahomet, as understood in other parts of Asia and in Europe, declares that that is not the month in which to do war, except it be in defence? The ignorant Mappilla fanatic prefers to believe otherwise. To die as a *Sayyid* in the month of Ramzan is very good. The 17th day of this month and the 12th and the 28th are all good days, but the 26th is the best day of all. And once the fanatics have started on the war path, they try to choose one of these days on which to make their last stand and fight their way into Paradise. But woe unto the coward whose heart fails him at the last. All his virtuous actions are ignored. He will die a sinner and be thrown into hell, into a pit of everlasting fire, where countless legions of scorpions, snakes, worms, and frightful dragons will ceaselessly torture him. Rarely, however, does the fanatic turn back after once he has bidden his people good-bye, divorced his wife or wives, received the benediction of a Thangal or high priest, and passed his war-knife through smoke as an oath of his martyr resolve. Death—death to the last—is his only resolve. Thousands may come against him. The bullets may riddle his body in a hundred places. While there is breath in him, he will fight, and the visions of *houris* on

the battle-field will encourage him and stimulate him to put forth his best endeavours.

In the fanatical rising of 1849, when Ensign Wyse, of the 43rd Madras Native Infantry, was killed in action, one of the Mappilla fanatics had had his thigh broken in the engagement. For seven days he remained in all the agony attendant on an unhealed wound. Yet, when the Mappillas made their last sortie, there he was, hopping on his sound leg to the encounter, eager to strike one blow before being cut down. In December, 1843, ten fanatics charged deliberately into the midst of over two hundred trained and well-armed troops. In the Pandicad rising of 1894, a handful of Mappillas came rushing out like tigers from a Hindu temple in which they had taken post. It was scarcely dawn, and it was fearful to think of the recklessness with which they jested with death. The bullets from Lee-Metford rifles went flying into them, but nothing on earth could check their mad career. Many dropped in their tracks, some only fell when they had reached the feet of the British troops. Such is the terrible spirit of Mappilla fanaticism. Such is the faith of the Mappilla in his creed, as his Mollahs and Musaliars interpret it to him.

The courage that animates the Mappilla fanatic is magnificent ; perhaps it is unrivalled. The Ghazi who comes down from the bleak Afghan rocks to murder, treacherously and in cold blood, inoffensive Europeans living on the borders of the British Indian Empire ; the immortal Fuzzy-Wuzzy, who is credited with the possession of pluck and dash enough to break a British square—neither of these is in it with the Mappilla fanatic. After all is said and done, it is only fanatical courage. Yet it is not dying out. It has been a thorn in our side for a century, and, as the years go by, it seems to be gathering strength and becoming more irksome. The example of the blest who have gone before serves to keep the flame alive ; that flame animates the breasts of men, women and children alike. In the rising of 1896 were several boys who were barely 14 years old each. One was 12 ; some were 17 or 18. Some observers have said that the reason why boys turn fanatics is because they may thus avoid the discomfort and suffering which the Ramzan entails. A dispensation from fasting is claimable when on the war-path. There are high hopes of feasts of cocoanuts and jaggery, beef and boiled rice. At the end of it all there is Paradise with its black-eyed girls. I am disposed to look upon the last as the main inducement.

The fanatic instinct in Ernad and Walluvanad is certainly racial. The average Mappilla may not have nerve and bigotry enough to make him an active fanatic ; but, should his son or brother elect to "go out," he will silently acquiesce

and he will never be heard to express regret. The Mappilla wife, or mother, or sister may not, because of her sex, take up the war-knife and seek her a place alongside the resolute braves who are fighting for an imperishable crown, but she will listen unmoved to the story of how her men fell, bravely fighting for the faith. In the outbreak of 1894 a Mappilla youth was wounded, but not killed. The tidings was conveyed to his mother. She merely said, with the stern majesty of some Spartan matron of old: "If I were a man, I would not come back wounded." There are many such Mappilla women in the fanatic region of Malabar. Ask them, after an outbreak, what induced their men and boys to "go out," and they will merely say: "We know not." Stern, reticent, impassive, they hold it treachery to satisfy the vulgar curiosity of those who would pry into the motives of brave men who perished in order to win eternal bliss.

It has always been customary on the part of Mappilla fanatics to seal by the murder of an infidel their resolution to go out and die as *Sayyids*. Once on the warpath, they do not scorn to enter the houses of infidels and rob and pillage. Robbery and dacoity have, in fact, formed a special feature of some of the more recent risings. Apparently, the martyr's glory is not in any way lessened by rapine and plunder. It is permissible to kill all infidels, whether they resist or not. It is held creditable to use force in converting to the true faith all and any infidels who may be met with on the path. But, for all his curious belief and all his brutal fanaticism, the true Mappilla fanatic will never stoop to molest a woman.

Those who die fighting for the faith are revered as martyrs and saints who can work miracles from the Paradise to which they have attained. In the hour of peril think of them, it is said, and they will come to your aid and avert the direst calamity. A Mappilla woman was once benighted in a strange place. An infidel passed by, and, noticing her sorry plight, tried to take advantage of it to destroy her virtue. She immediately invoked the aid of one of the martyrs of Malapuram. A deadly serpent rushed out of a neighbouring thicket and flew at the villain who had dared to sully the chastity of a chosen daughter. Once, during a rising, a Mappilla who preferred to remain on the side of order and Government stood afar off and watched with sorrow the dreadful sight of his co-religionists being cut down by the European soldiery. It was a pitiful sight, and the heart of this secretly sympathetic watcher was very sore within him. But suddenly his emotions underwent a transformation, for there, through his blinding tears and the dust and the smoke of battle, he saw a wondrous vision. Lovely *houris* bent tenderly over the fallen martyrs

and bathed their wounds and gave them to drink of delicious *sherbet* and milk, and, with smiles that outshone the brightness of the sun, bore away the fallen bodies of the brave men to the realms beyond. The watcher dashed through the crowd and cast in his lot with the happy men who were fighting such a noble fight. And, after he was slain, these things were revealed to his wife in a vision, and she was proud thereat.

These and similar stories are believed as implicitly as the sacred Koran is believed. Such is the faith of the Mappilla.

ART. III—MODERN RELIGIOUS CONCEPTIONS.*

IN a communication, in the English and French Languages, made to the Tenth International Oriental Congress, held at Geneva, 1894, I described "The Ancient Religious Conceptions of the World before Anno Domini." Some of those conceptions are now entirely extinct; some maintain a useless, degraded existence; some are still mighty factors in the world's history. Some, again, were National; some Universal. All forms of Nature-worship, or animistic conceptions, known at that date, are now slowly dying away, being out of touch with the epoch. Under the influence of a book religion, and still more of a propagandist religion, such weak religious conceptions wither away.

At the present epoch there is a marked difference in the religious atmosphere, as well as in the feelings of mankind, on certain subjects. The very idea of sacrifice of animals, augury, oracles, signs from Heaven, miracles, dreams, visions, supernatural appearances, magic arts, astrology, possession by evil spirits, and such like, has disappeared. So also amputations of portions of the body, disfigurement of the features, colouring of the skin, self-imposed tortures, asceticism, celibacy, weaknesses of the elder world, if not gone, are dying out, and can no longer be used as indices of the relation of the soul of man to God. Lying legends are put to scorn. The higher criticism brings all the records of ancient men and ancient times to one stern test of credibility. The wild dream of written documents supposed to have come down from Heaven, and the audacious assertions, mere assertions, of plenary inspiration of individuals, or aggregates of individuals, called Churches, are being respectfully, and with tender sympathy towards the fondly credulous, laid aside.

To all students of history and of mankind down to the present day the doctrines promulgated in Galilee in Anno Domini, seem to be the most suited to the requirements of mankind, all mankind in every stage of culture, in every variety of climate, or geographical environment, as there is no chain, which binds the receivers of these doctrines to any place like Mekka, to any material object like the Kaaba Stone, to any domineering language like the Arabic, Hebrew, or Sanskrit, to any social customs, or laws outside the great moral law of the

* This article contains the substance of a paper prepared for the *Eleventh International Oriental Congress, held at Paris, September, 1897*. By Robert Needham Cust, LL. D., Honorary Secretary of the Royal Asiatic Society of Great Britain and Ireland.

human race. But these simple doctrines have been altered—shall we say, “deformed?”—by accretions of Judaism and Paganism during the dark ages, and disfigured by the European coloured glass thrown over them. However, freedom of speech, writing and assembly having been obtained, and absolute equality before the Civil Law of the professors of every possible variety of religious conceptions having been developed, we may fairly leave the religious conceptions which existed in the first century of the Christian era to take their chance in the internecine struggle which social and commercial contact has produced. If, as I and many others believe, they are from God, they will triumph: they require no Bulls of Popes, no Ukases of Emperors, and no Acts of the British Parliament.

The writer of these lines has his own strong views on the subject, and they are dearer to him than life; but no trace of their having blinded his vision will be found in this argument, for he has stepped down into an open arena, and in his eyes wholesale abuse, or misdescription, or sneers, are not arguments; indeed, they indicate a weak case, which requires such support. To a person passing from the status of a sincere Hindu to that of a believing Christian it must be a severe intellectual struggle, and the danger is that the foundations of belief laid in childhood being once disturbed, the first change may be the forerunner of many more changes. The Christian born in the Faith, who has passed through a period of doubt, if he comes back by solid conviction to his old moorings, is stronger and better than the easy-going believer, who has taken no trouble to measure the depths, or examine the difficulties. The majority of mankind are in this dull intellectual stage. Religion has no real influence over them. There is something in the biting sarcasm of Ernest Renan (“Israel,” v, 106) that religious ceremonies have “become, by the perverseness of mankind, a necessary imposture. The human race seems to have “been created for the purpose of imbibing error, and even “when the Truth is admitted, it is not done so for the real good “reasons.”

The old national faiths of the elder world were very tolerant: if left alone themselves, they would leave others alone. No doubt, the shoe did pinch, when a member of a family adopted an entirely new phase of ideas, such as a Hindu becoming a Mahometan, and the convert was deprived of his heritage, and sent to social Coventry: but to a Hindu sectarian within the pale there was no change. The precepts of Buddha were, indeed, propagandist, but there was no persecution. If it be argued that there was persecution in the time of Darius the Mede, in the matter of casting Daniel into a den of lions, it must be recollected that the offence was disobedience of the

king's command, and this offence Daniel committed in an ostentatious and defiant way. He might have offered his daily prayers in secret. So the persecutions of the early Christians by the Roman Emperors were due very much to the defiant conduct of persons desiring to be martyrs. If a Sovereign ordered that an oath of allegiance should be made to him, surely this could be done without prejudice to religious convictions. With Christianity began the epoch of intolerance and persecution. The Hebrews had set the example in slaughtering the Priests of Baal and stoning Stephen. The Mahometans followed the bad example set by Christians, but the arm of the persecutor is now arrested. Even then the evil would have been comparatively light, but that the curse of the arm of the flesh was invoked, cruelties, persecutions, disabilities enforced by the Civil Power to support the "my Doxy" view of a deep mystery against "your Doxy." Thus differences in religious views became one of the great curses of mankind: we see the latest survival of it in the present social persecution of the Hebrews in Eastern Europe.

The enfranchised intellect of mankind at the present epoch really thinks out the relation of the Soul to God, and two questions of most serious import have presented themselves.

- I. Is the same Religious Conception good for all time? Is there no room for Evolution?
- II. Is the same Religious Conception good for all climes, races, physical peculiarities, and Geographical environment?

Let us think out these points reverently yet faithfully.

I. Would the same religious conception which was deemed to be good for Abraham and Jacob in the nineteenth century B. C., be equally good at the close of the nineteenth A. D.? Did the same moral law prevail? Abraham married his own sister; had a child by his wife's maid; was quite ready to kill his own son, Jacob, at the age of seventy-seven, when he ought to have known better; took two sisters and their two maid-servants to be his wives, and their children were all equal in position to each other, and deemed to be legitimate. He grossly deceived his old father. He was ready to receive Jehovah as his God if he were supplied with food and raiment: "*Do ut des.*" His wife, when she left her father's home, stole "the images, that were her father's," and Laban, the Heathen father, charged his son-in-law, Jacob, with "stealing his gods." It must be admitted, that there was a considerable evolution of the religious idea during the nineteen hundred years which elapsed before the new Gospel was preached by Jesus to the petty tribes of the Hebrews amidst the millions of the nations subject to Rome, who were as nothing compared to the

hundreds of millions of the round world. A second period of nineteen hundred years has since passed away, and can it be truly said that there has been no spiritual and intellectual evolution since that time?

II. Is the same religious conception good for all climes, races, physical features, and geographical environments? This question has been earnestly discussed. We know as a fact that there is a great difference in the intellectual outfit and capacity of the races of mankind, and in these last days the whole round world has been explored, and every traveller brings home accounts of difference of colour, bodily structure, habits, aspirations and religious belief. There are portions of the human race contemporaries in birth, but centuries apart in intellectual evolution from other portions; and with regard to the Hebrews, of whom we have a continuous history since the time of Abraham, how totally they have changed in every matter susceptible of change, except the mutilation of the male body! And even as regards nations in a state of culture, what a vast chasm yawns between the learned and the unlearned! When I conversed in their own language with my native friends in India, I adapted my conversation to the level of their historical, geographical, theological, and scientific knowledge, or they would not have understood me. Strong meat is not given to babes: that is true; but should infant's food be given to strong men? Old weapons are usually hung up on walls with respect, but they are not made use of in battle. Old-world stories are alluded to with respect, but they are not brought into the counsels of practical man: they are reverently laid aside, as belonging to an intellectual phase of the human race long since gone by.

This brings us to the subject of the ancient religious books of the elder world. The knowledge of them has caused a vast change in the position of the great question, the relation of the soul to a Higher Power. It was very well formerly to assume that all mankind, with the exception of the tiny tribe of the Jews, were in intellectual darkness and gross ignorance of things spiritual. The writings of Plato and Cicero might, to any candid mind, have removed this illusion. But now the Sacred Books of the Hindu, Buddhist, Confucianist, Zoroastrian, Egyptian, Assyrian, and the Greek Philosophy, compel the inquirers into the subject to admit, that wisdom, holiness, sin, a future Judgment and a just conception of the Creator were not the monopolies of the Hebrew in Asia during the centuries before Anno Domini; and the fact that the large majority of the population of the world still profess non-Christian Faiths is a fact that cannot be gainsaid, in spite of the strenuous attempts of the most powerful, civilized, and devoted representatives of

the great nations of Europe and North America to lift up the veil. Take, for instance, the case of British India : the annual increase of population by way of ordinary procreation exceeds the number of converts and their families, the work of two or three centuries.

The great misfortune of dawning Christianity was, that there was no literary or social intercommunication betwixt the Hebrew and Græco-Roman world to the West, and there was an absolute ignorance of the great intellectual advances of Zoroaster, Buddha, the Hindu sages and Kong-Fu-Tzee in the East. It was a period of literary isolation. Paul of Tarsus, a man of education, quotes two Greek Poets ; but why had he not studied the works of Plato and of the Roman Philosophers ? He could scarcely have been ignorant of their existence. A visit of an hour by Paul to Seneca would have been well spent, and some communication with Epictetus would have been profitable to the great cause. The present epoch, nineteen hundred years later, presents a totally different environment. All who care to do so, read the utterances of Chander Sen, and Syed Amir Ali, and Comte, and many others, and those men read, in their turn, the utterances of those from whom they differ. There is a bold questioning of the past, and a still bolder looking out into the future.

It was necessary to make the above discussion in order to clear the ground for a description of the new religious conceptions, outside the great doctrines preached in Judea, which will now be briefly stated. There are two categories :

- I. The old systems purified, refined, and adapted to the environment of a civilized society.
- II. Modern conceptions formed from the blending of the old systems with Christian doctrine, either consciously, or unconsciously.

The first category comprises :

- A. Islam, with its latest Evolution, Bábiism.
- B. Neo-Judaism.
- C. Neo-Hinduism.
- D. Neo-Zoroastrianism.
- E. Neo-Buddhism.
- F. Neo-Confucianism.

None of them are in precisely the same state as they were in before they came into contact with European culture.

A. *Islam* is well known to those who have lived in countries where it is professed. Ignorant persons choose to abuse it ; but it represents an immense advance in the evolution of spiritual ideas from the standpoint of the elder world. In peculiar environments it is apt to be degraded, as Christianity is also ; but in a realm of law, like British India, the sixty millions of

Mahometans commit no outrages, live decent lives, perform their religious duties and make good citizens : the charges against Islam are not based on what is derived from their religious conceptions, but from their former lawless environment and the weaknesses of common humanity when uncontrolled by courts of justice, and a strong ruler. The sect known as the Bábi is a new one. A young Persian named Mirza Ali Mahomet, in 1844, gave out that God was manifested in his person, and he assumed the title of Báb, or Door, the channel through which the true meaning of the Koran is revealed : he wrote a Book called the Beyan, which would, according to his views, supersede the Koran, and that he whom God should manifest, would soon appear. He was martyred by the Mahometans, and in the hour of death was patient, and content, and willing to be sacrificed. A successor to him was named, and it is clear that a religious revival of an exalted stamp has taken place, and we know not what the end will be, now that the arm of the persecutor is restrained by European influences.

B. *Neo-Judaism* : there are sounds of life in this dead tree, a shaking of dead bones, and an advanced section propose to start Judaic Missions and a New Judaism. But to this form of religious conception, and that of Islam, the disgraceful rite still clings of the mutilation of the male body, which differentiates it from all religious conceptions of the ancient world, and all religious conceptions of the modern world, of a really spiritual character, which, in the Nineteenth Century, an epoch of culture and personal respect, must deter converts. Females are practically excluded from admission, as there is no initiatory rite for them : we have only to imagine an infatuated unmarried member of the New Woman type desiring to accept the doctrines of Islam.

C. *Neo-Hinduism* is a movement entirely independent of any Christian or European influence. Dáya Nanda, of Ajmír, the founder of the Arya-Somáj, died in 1883, and he was the determined champion of the literal interpretation of the Veda, which, in his opinion, were brought down from Heaven in material form, and embraced all knowledge, human or Divine, past, present, or future. This movement is in sharp contrast with that of the Brahmo-Somáj, which will be described further on. Two remarkable facts are asserted—that the Veda do not admit of translation, only of commentary, and that it is a duty to place them in the hands of the devout in the cheapest possible form. The doctrines of the Arya-Somáj consist of negative oppositions to Hinduism, Christianity and Islam. The *motif* of the movement seems to be to get rid of many of the Hindu customs of a late date, which

had crept in after the epoch of the Veda, and yet to keep clear of any new religious conceptions introduced from foreign countries : it is also an agency for mutual help, and self-improvement. The idea is the elevation of a great nation, considering independently its spiritual position as regards the past and the future.

D. *Neo-Zoroastrianism*. A community of about 100,000 persons in British India represents the survival of this most ancient and important religious conception ; but they are eminently wealthy, respectable, and educated, and are monogamists. The advanced party, as among the Hebrews, is ready to reform the abuse of centuries in their customs. Their sacred books in Zend have literally been revealed to them by European scholars. They, like the Hebrews, have seriously considered the expediency of attracting converts. The conception is purely monotheistic, and there never have been temples, images or altars. Herodotus said so 500 B.C. ; it was true then and is so still. They reverence Fire, as the refulgent symbol of God, but are incorrectly called worshippers of Fire. The assertion that they admit a dualism of two independent and hostile spiritual Powers, is a mistake : the idea of the " Evil Spirit " is identical with the Jewish idea of Satan. They believe in the immortality of the soul, a life to come, and rewards and punishments. Their moral system is : " Good words, good thoughts, good deeds : think nothing but the Truth, speak nothing but the Truth, and do nothing but what is proper." Their religious practice is disfigured by the exposure of the bodies of the dead to be devoured by birds of prey. I discussed this matter with an enlightened Parsi, but he considered it the best way to get rid of the dead : perhaps they will gradually accept cremation as a compromise, as in a civilized country it would be intolerable to find feet and hands of human bodies dropped by birds of prey who had brought them from the Towers of Silence.

E. *Neo-Buddhism*. This ancient propagandist religious conception was well known in past centuries. The number of its followers, real or nominal, exceed that of any other ; but it is frightfully degraded. The question is, how far will it take a share in the evolution of coming generations. There is a possibility of adherents joining them, of which we have a notable instance recorded in *The Times*, September 28, 1889, of an American named Powell being received with due ceremony into the Buddhist community by the spiritual head at Colombo.

The marked partiality for Buddhism exhibited in Europe and America cannot but react upon the Native communities, as education extends to them and notices of revivals are chronicled in the newspapers. Buddhist associations are formed

to counteract the Christian missionary ; opposition-schools are opened. In Japan we hear of a reformed Buddhism being preached by a Japanese fresh from Oxford.

Attempts are made to blend Buddhism and Christianity, and instances are reported in Burma among the Karén. The initiatory rite consists of swallowing a portion of rice, paying a fee to the spiritual chief, keeping the Christian Sabbath, and having a service in imitation of Christians. The adherents of this new form of worship are said to number thousands. No information is given as to the doctrine taught, but the facts stated show the readiness of ignorant people to accept new teachings.

What is Buddhism in reality, and in what light does the cult appear to the inquirer into the spiritual history of mankind?

True Buddhism is Humanitarianism, something very like the Gospel of Humanity, which I shall notice under the head of Positivism, the essence of which is the elevation of man by human intellect, intuition, teaching, experience, and effort, to the highest degree of perfection ; and yet something very different, for the Buddhist Ideal is the renunciation of all personal existence : the perfection of the Buddhist is annihilation, and to the unsophisticated intellect the notion of extinction by becoming Buddha has a weird attraction, and the doctrine of transmigration explains, and, to minds not enlightened, is the only intelligible explanation of, the undeserved material prosperity of the wicked and the undeserved sufferings of the good. I fear that the world has not got rid of either of these two doctrines, or get out of this dilemma.

We have only now to estimate whether this godless moral machine will form a nucleus for the reception of educated and thoughtful men, seeking to follow what to them seems the right way. We are hardly fair judges, for to our apprehension there exists in the human mind, from the beginning of consciousness, a something, whether we call it a suspicion, or an innate idea, or an intuition, or a sense, of a Power greater than ourselves. The animal creation, except man, feels it not ; but man has an ineradicable and congenital feeling of dependence and reliance on a higher Power, not necessarily a benevolent Power, a consciousness of control by it, which the word "Religion" suggests. "It is He that hath made us, not we ourselves." Buddhism is the absolute negation of this feeling. The great founder of Buddhism underestimated the power of this feeling in the human breast.

Let me say a word on the other side. Buddha claimed only to be the ideal of that self-subjugation which man *might* attain. This ideal is not far from Christian perfection. What did Buddha leave behind him when he died 500 years

before the Christian era? No God, no Heaven, no Future State, but the spirit of universal charity and benevolence, mercy and pity, until then totally unknown; self-denial, self-consecration, simplicity of ceremonial, equality of all men, religious tolerance, and the absence of all the frightful disfigurements which cling to the skirts of every other religion, priestcraft, ritual, formality, pride, hypocrisy, ignorance. His leading principle was altruism as opposed to egotism.

F. Neo-Confucianism. The nature of the teaching of Kong-Fu-Tzee is well known. The system is imposed by the State, and it must be recollected, that the Great Sage was chiefly a compiler of the ancient traditions of the Middle Kingdom, as well as an independent author. It may well be expected, that the contact with the foreigner, and the publicity of the Press, and the advance of Education, will clear away much that has degraded his teachings in aftertimes.

The strange notion which underlies Ancestral Worship is not peculiar to China, as, in the system of Roman Pagan worship, the *lamiaë* and *lemures* were believed to wander about as ghosts, not having yet come to their rest, and at a later period were regarded definitely as evil spirits. Such antiquated delusions die hard; but they disappear under the influence of education.

The subject of ancestral worship was discussed at the Missionary Conference at Shang-Hai in 1890: the features of that worship are:

- (1) Divine attributes are ascribed to the dead.
- (2) The real motive is fear of evil from evil ghosts.
- (3) The manes of those who have no descendants, are propitiated out of mere abject cowardice.
- (4) Every individual is supposed to have three souls:
 - (a) the one which goes to Heaven; (b) the one which sticks to the tablet in the house; (c) the one which remains in the grave.

All this may be true; but the conception is so contrary to reason, that it would appear possible to disentangle the Chinese mind: this, however, will not be effected by mere abuse of the custom, but by calm reasoning. There were a few missionaries at the Conference of sufficiently enlarged views to detect the good in the system; it inculcated filial piety, and tended to preserve purity and morality of the family. Unfortunately missionaries have, with many compensating excellent qualities, very contracted visions, and, as on the Opium-trade-question, so on this they seem to have lost all power of forming independent judgment. Remarkable as this Chinese cultus is, the inability of reasoning men to understand things reasonably is equally remarkable. Reckless abuse cures no evils.

The doctrines of Kong-Fu-Tzee are based on the consciousness of right and wrong, either innate in man, or bestowed by what is called "heaven" on man. Vague as may be the Chinese term translated "heaven," it is better than the avowed atheism of the Buddhist, or the confused polytheism of corrupted Taouism. The professor of the latter two forms of belief is indebted for his convictions of duty to his education in the teachings of Kong-Fu-Tzee, just as men of European culture, who deny the divinity of Jesus, have unconsciously, yet immutably, their sense of duty based on the Christian standard. The conversion of the Chinese thus presents a problem unequalled in difficulty and grandeur in any part of the world. I am informed by a missionary labouring in the China field, that purified or Neo-Confucianism is a very possible danger, for baptized Chinese still seem to think that Christianity is only an improved form of Confucian morality. Perhaps the use of the term Shang-Ti contributes to this idea.

The second category comprises :

- A. Brahmoism.
- B. Theosophy.
- C. Hau Hau, Te Whiti, Te Kooti, of New Zealand.
- D. Mormonism.
- E. Positivism, or Comteism, or the Religion of Humanity.
- F. Agnosticism.
- G. Unitarianism.
- H. Theism.

A. *Brahmoism* is essentially different from the Neo-Hinduism of the last category, as the influence of the Christian idea and practice is admitted : it thus belongs to a different epoch of conceptions.

The founder of the Brahmo-Somaj, Keshab Chander Sen, broke away from the old conservative party, and went further in his zeal for religious purity ; he was ready to give up caste, to select the best from all the sacred Codes of the world, and form a Sacred Code. Socially, he condemned polygamy and early marriages. He laid down that there was one true God, that we must love Him, and do the works which He loves ; that His only temple is in our hearts ; that the only ceremonies are good works, the only sacrifice self-renunciation, the only pilgrimage the company of the good, the only Veda, Divine Knowledge ; the most sacred formula, "Do good and be good ;" the only true Brahmin is he who knows Brahma. All founders of Religion thus speak with authority about the existence of God, and the spiritual truths, which are essential to human salvation. There is plenty of Christianity also on the lips of professing Christians. In one of his speeches he thus states his case : "The Brahmo-Somáj was originally estab-

“lished for the propagation of Theistic worship, and after a
 “time the movement spread through the length and breath of
 “Bangál. Wherever there was an English school, a Brahmo-
 “Somáj was established, as a necessary consequence of English
 “education. After twenty years it was found that there
 “was a defect in the foundation, for the Veda, upon which
 “their faith was based, taught, along with some truth, many
 “errors, such as Nature-worship, transmigration, and absurd
 “rites and ceremonies. Abandoning the infallibility of the
 “Veda, the Brahmo appealed to Nature, to their own hearts,
 “to their own religious intuitions, in order to establish them-
 “selves upon a purely Theistic basis. But the Society, though
 “it attained doctrinal and devotional purity, was not practical.
 “Hence lately there has been a secession of the progressive
 “party, which protests against caste and all social evils.”

It is clear from the above that Brahmoism is a place of refuge, temporary or permanent, for the educated Hindu. The movement has lasted seventy years; has advanced in the right direction, socially and spiritually; is in consonance with the spirit of the age and with the tendency of the Hindu intellect to speculate on monotheism; is free from all social defilement and all spiritual transcendentalism, and is one of the most powerful rivals of the Christian faith.

In Exeter Hall, 1890, in my presence, an ex-Lieutenant-Governor in Northern India, who had full knowledge of the subject, thus expressed himself: “There was being rapidly
 “raised up a class of men in India as educated and cultured
 “as those who left the schools and colleges of England. It
 “was a small but very influential class, for they were the men
 “of the Press and of literature, and had the control of the
 “destinies of the many in the future. They had no difficulty
 “in procuring books to read, for all the resources of English
 “literature were open to them; but the great question with
 “them was that of choice: what should they read? He
 “thought that the Brahmo-Somáj was doing a splendid service
 “in this direction. He regretted that that system stopped short
 “of Christianity, but it was opposed to atheism, materialism,
 “and immorality. He knew that differences of opinion existed
 “as to that system, many regarding it as a hindrance to
 “the spread of Christianity; but he believed it to be a help,
 “in that it was preparing the way for a great Christian work in
 “India.”

In 1882 P. C. Moozumdar published in Calcutta a book intended to give a tolerably complete idea of the principles of the movement, called the “Faith and Progress of the Brahmo-Somáj.” It appears that it sent out Missionaries who had travelled far and wide. In 1884 there were one hundred and

fifty branches all over India ; and missionary work was a part of their system. They had prevailed on the Legislature of British India to pass an act to legalize civil marriages, so as to save them from even a formal conformity to idolatrous ceremonies. There are two or three bookstalls, well furnished with vernacular literature, the only article of Western origin being a Buddhistic catechism of English and Burmese, by Colonel Olcott. There are other interesting features of this new development, recalling the so-called heresy of Gnosticism in the second century of the Christian era, which was, in fact, of purely Pagan origin, assimilating certain conceptions from Christianity. This gave it its vital force, and procured it an interest long after it had died away. We must not be surprised to witness similar combinations, where the life-giving touch of even imperfect Christian development comes into contact with the decaying embers of moribund Pagan ideas. A combination of Neo-Buddhism and the Romish Worship is not impossible ; and the uncontrolled transcendentalism of the Salvation Army might possibly incorporate elements of Neo-Hinduism. The questions on which the Gnostics speculated were precisely those which, at all times and in all ages, have agitated the hearts of men, viz., the origin of life, the origin of evil, and the hopeless corruption of the world, although created by a God perfectly wise, holy and powerful. The Hindu intellect revels in such subtle and profitless question.

B. *Theosophy*. It has no connection whatsoever, in its modern shape, with the Theosophy spoken of by early writers. It is an entirely modern development, and chiefly confined to India ; the persons connected with it being an American, Colonel Olcott, and a Russian, Madame Blavatsky. Colonel Olcott defines the word Theosophy as "Divine Wisdom," "an all-pervading eternal principle in Nature, with which the interior intuitive faculty in man is akin." The objects of the Society are :

- (1) To form a nucleus of a universal brotherhood of Humanity without distinction of race, creed, and colour.
- (2) To promote the study of Eastern literature, religions and sciences, and indicate their importance.
- (3) To investigate the hidden mysteries of Nature and the psychical power in man.

These are bold words. The Society has been in existence since 1875, and its headquarters are chiefly at Madras. It has a periodical literature of its own, and the whole of India, Ceylon, and Japan have been visited. Truth can only triumph after thoughts have been stirred. We may rejoice at any wind which breaks the hopeless calm of ignorant Paganism.

One extraordinary feature is the introduction on the stage of Mahatmas, or Sages, supposed to be hidden away somewhere in the ranges of Himalaya, who have conquered all knowledge and appear in visions to their votaries.

In the *North American Review*, August, 1890, Madame Blavatsky claims for the movement a success beyond the dreams of the originators. She tells us that it is based on three principles :

(1) The Brotherhood of Men.

(2) The Study of Oriental Theories.

(3) The investigation of hidden force in Nature and in Man.

She enumerates thirty-eight Chartered Branches in America, twelve in Great Britain, and one hundred and fifty elsewhere : there are seven centres of publication, with two Magazines in France, one in America, and one in London : their aim and desire is to help in some degree the formation of correct scientific views of the nature of man. For many a long year humanity has been crying out in the dark for light and guidance : only the Masters of Eastern Wisdom (the Mahatma) can set the foundation on which the new edifice can be built so as to satisfy the intellect and the spirit, and guide humanity through the night into clearer day.

So long as philosophers draw on the imaginary spirits coined by their own fertile and excited brains, we can bear with them ; such was it ever : but, when we are called upon to look for spiritual enlightenment to the utterance of Indian sages, the Sanyasi, the Vanaprastha, the cave-dweller, whom no one ever met, or heard of, but who are supposed to be lurking out of touch with humanity, living apparently upon nothing, and when these worthies appear in a marvellous way and reveal truth to an American and a Russian, totally ignorant of any Indian Language, a line must be drawn. Whatever may have been the case in the time of the Emperor Augustus Cæsar, at least at the close of the nineteenth century, the idea of Angelic appearances, Visions, Heavenly Messengers and Miracles must be respectfully laid aside, as out of harmony with a material epoch.

C. Hau Hau, Te Whiti Te Kooti. This is a religious development among the Maori in New Zealand. In 1864 they rebelled against the British Government; a party of the 57th Regiment fell into their hands, were killed, and their heads cut off. In their hatred to the British Government they invented a new Religion, and made the head of the British Officer who commanded the party killed, the symbol and centre of the system. They had been nominal Christians. Their new religion was called Pai Marire, and a high priest was appointed who professed to receive inspiration from the Angel Gabriel through the medium of the Captain's head. They believed themselves to be under the protection of his

Angel and of the Virgin Mary that the Christian Religion was false ; that all Scriptures ought to be burned, no Sundays to be kept, and the sexes to live promiscuously so as to secure increase of population. Their priests claimed to have super-human powers and could secure victory by shouting " Hau-Hau !" Hence their name.

Te Whiti was a chief in the Northern Island at Parihaka, near Mount Egmont. He rebelled, and was defeated and imprisoned at Christ Church and Nelson, and has since been allowed to return to his home. He called himself a prophet, but was really only a patriot. He read the Bible, and no other book ; he pretended to have divine power, but his real object was to save his lands from the white settlers. He secured an influence over his countrymen in this way, preaching passive resistance ; but when things became extreme, he declared that he had a divine message (Atua) put into his mouth, ordering his people to fight for their land.

Te Kooti was another of the insurgent chiefs, who, after rebellion and murder, assumed the rôle of teacher, and founded a religious system, which attracted many followers, including Native Christians. With an outward show of reverence for spiritual things, it served as a cloak for licentiousness. Most of the pervert Christians returned to their old faith. Of late years a change has come over Te Kooti's followers, and the cause of temperance has rapidly increased, and a few have become Christians.

D. Mormonism, or Latter Day Saints.—In all the reports from New Zealand I read of the Mormons being very active among the Maori. Their missionaries go about among the ignorant people, and the Book of Mormon has been translated into Maori, and printed and put into circulation. They have also appeared in India. The history of this sect is well known. It was only in 1830 that the prophet Joseph Smith produced the Book, and made known the new dispensation, communicated to him by Angels. The Christian Scriptures are accepted, but the Book of Mormon was added. The form of government is a strict theocracy maintained by the elders. A kind of Polytheism has come into existence, including Adam, Christ, Joseph Smith, and Brigham Young. They are total abstainers from the use of liquors or tobacco, and practise total immersion. They prosecute their missionary work with great zeal all over Europe, in America, and in Oceania. Their numbers are small ; still they represent a disturbing agency, which has to be reckoned with. The custom of polygamy has been authoritatively abolished, and was not part of the original Revelation.

A Christian Minister, 1890, thus states the case of the

Mormons : " The Mormon missionaries are not false-hearted
 " and deceitful, but possessed of a large measure of sincerity
 " and zeal : the Latter Day Saints send out more missionaries,
 " and make more converts in proportion to the number of
 " their adherents, than any other body ; a world-wide dominion
 " is their object : 90,000 converts made the long journey from
 " Europe to Utah."

Among their good features are :

- (1) No Saint lives for himself, but for the Kingdom.
- (2) Salvation was desired for the sake of Service.
- (3) All personal and family considerations must be left in strict subordination.
- (4) An adherent must go where the Church sends him.
- (5) They go without salary, and serve at their own charges, for in their opinion to pay salaries would be to imitate the ways of the Christian clergy.

On the other side, let us consider their folly and falsehood.

- (1) They pretend to heal their sick with prayer and oil ; four hundred and sixteen suffering from small-pox were cured by simply laying on of hands.
- (2) They cast out devils : three hundred and nine in Wales all in one day, the work of one elder, and in parties of from three to thirty-seven at one time.
- (3) If not received, they denounce woe and malediction. New York was well nigh destroyed by fire two years after one malediction, if we believe their story.
- (4) They used to deny that polygamy existed, although notoriously it was practised.
- (5) Piety is not required of a Saint, nor even morality.

It is asserted that the recent Circular (1890) forbidding polygamy is merely a formal submission to the law of the Land, not an *ex animo* condemnation of an immoral custom : in fact, polygamy will be replaced by profligacy.

E. *Positivism, or Comteism, or the Religion of Humanity.*—Forty years ago Auguste Comte, a Frenchman, developed a system of Positive Philosophy, which, for a time, had a wide influence, as, indeed, there were certain incontestable truths in his method. He had a school which followed him, and Mr. Frederick Harrison is now the representative teacher, and propounds his views on the first day in each year, called the Day of Humanity. A few weeks ago there was a function of the Positivist community in London on the occasion of the death of a respected citizen. Before he was cremated his friends assembled round his coffin, covered with white flowers and surrounded by

palms. Mr. Harrison reminded the mourners "that there was no open grave, no religious service of any kind, but merely an expression of personal affection and farewell, and he claimed for the deceased that immortality which comes of well-doing and good example. Of immortality beyond this Mr. Harrison knew nothing and asserted nothing." This form of worship, accompanied by cremation, may be an acceptable retreat for the devout and educated Hindu.

In 1895, in the *Nineteenth Century*, Mr. Harrison thus expresses himself: "If there can be a Scientific Religion, there is no alternative between Revelation and Humanity. If in this world God is not present to us as the dominant Power, as the object of our regard and trust, then Mankind must be. It is in vain for Agnostics to tell us that we need no Religion, that there is no dominant Power ascertainable, that we should contemplate the Universe, the Infinite, the All, the Possible, the Unknowable, the inexhaustible sum of ceaseless Evolution. The answer is: 'We will have a Religion; we must have a Providence; we yearn for a Power akin to ourselves; it is either God—or Humanity.'"

F. *Agnosticism*.—There is no necessity to do more than write the word, which represents so much in the present age. Those who profess it, have not concealed their light under a bushel, and their tenets are as old as the Book of Job: "Oh! that I knew where I might find Him!" It represents a resting-place, or rather a place of unrest, which must be taken account of in considering the subject which I am now discussing. The enlightened one, the Buddha of this School, knows, or at least has tried to fathom, the depths of the system, as beautifully described by a modern English poet with regard to Lucretius:

"Who dropped his plummet down the broad
Deep universe, and said, 'No God,'
Finding no bottom, who denied
Divinely the Divine, and died
Chief poet by the Tiber's side."

But for the poor sheep who have followed them in the wilderness, scientific Scepticism resolves itself into mere doubt, and intellectual Agnosticism into an ignorance as deep as that of the South Sea Islander. The last state of the Hindu and Chinese when they have left their ancient moorings, which at least gave some guarantee to morality, will be worse than the first. The tendency of the works of one of the greatest of the school is to display humanity passing through one after the other of the world's historic religions, the conception of the Deity and of Divine Government becoming at each step more and more abstract and indefinite. The ultimate goal is Philo-

sophic Atheism, for, although the existence of a First Cause is not denied, it is declared, and proved, to be unknowable. The Hindu is better off with his Brahma, than the hapless heir of all the ages who has followed the will-of-a-wisp of a god until it finally disappears.

G. Unitarianism.—A Unitarian magazine has been started in Japan. The Christian Missionary thinks fondly that by the end of the nineteenth century the progressive Japanese will have cast off their old faith; but what will they have adopted from Europe? Some think that Unitarianism will do for the common people, and may meet the perplexity of the educated Hindu mind. It is as well to know what Unitarianism is, and one leader has, after an honoured and holy life, put forth his final manifesto: "A conclusion is forced upon me, on which I cannot dwell without pain and dismay, that Christianity, as defined and understood by all the Churches which formulate it, has been mainly evolved from what is transient and perishable in its sources, from what is unhistorical in its traditions, mythological in its preconceptions, and misapprehended in the oracles of its prophets. From the fable of Eden to the imagination of the last trumpet, the whole story of divine order of the world is dislocated and deformed. The blight of birth-sin, with its involuntary perdition; the scheme of expiatory redemption, with its vicarious salvation; the incarnation, with its low postulates of the relation between God and man, and its unworkable doctrine of two natures in one person; the official transmission of Grace through material elements in the keeping of a consecrated corporation; the second coming of Christ to summon the dead and part the sheep from the goats at the general Judgment: all are the growth of a mythical literature, or Messianic dreams, or Pharisaic theology, or sacramental literature, or popular apotheosis. And so nearly do these vain imaginations preoccupy the creeds that not a moral or spiritual element finds entrance there except 'the forgiveness of sins.' To consecrate and diffuse, under the name of 'Christianity,' a theory of the world's economy thus made up of illusions from obsolete stages of civilization, immense resources, material and moral, are expended, with effects no less deplorable in the province of religion than would be, in that of Science, hierarchies and missions for propagating the Ptolemaic Astronomy, and inculcating the rules of necromancy and exorcising. The spreading alienation of the intellectual classes of European society from Christendom, and the detention of the rest in their spiritual culture at a level not much above that of the Salvation Army, are social phenomena which ought to bring home a

"very solemn appeal to the conscience. For their long arrear
 "of debt to the intelligence of mankind, they adroitly seek
 "to make amends by *elaborate beauty of Ritual Art*. The
 "apology soothes for a time, but it will not last for ever."
 (Martineau, "Seat of Authority in Religion," p. 650; Longmans, 1890.)

H. *Theism*. That this form of Religious Conception is making progress, cannot be controverted. Science progresses, and the minds of men expand : one increasing purpose runs through the age. It is impossible to take account of the steady progress of the human race in its acquired power of reasoning, in its infinitely enhanced capacity of judging of the credibility of ancient narratives, without feeling that what was suitable to the childhood of the human race may not have been intended for its manhood. We cannot but be conscious of the evolutionary atmosphere in which we move : we cannot shut our eyes, or close our ears, to the movements around us. The "*terminus ad quem*" of all speculations must be the existence of a God, and that is Theism, something very distinct from Unitarianism. The question cannot be got rid of by platitudes, or common-form quotations. Uncongenial as may be the problem, there it is, the problem of the Future.

CONCLUSION.

It cannot reasonably be concluded that the knowledge of Man of his relation to his Creator reached its highest possible level nineteen centuries ago, when every branch of human science was in its infancy, and the human race was in its childhood, with no knowledge of its environment, or its capability. There were many eternal truths spoken by ancient men, and they are still truths, but do not occupy the whole orbit of the human intellect. There may be still stores of truth not yet distributed, stores totally unknown to the wise men of the past, but which are gradually developed.

Existing creeds were not all false, because they are not entirely true now : they were suitable to their time, and did their work : they were not final : and they have been corrupted by time : "*Corruptio optimi pessima*." All that is asked is tolerance of the opinions of others, and non-interference of the State. We can calmly wait for the survival of the truest, and in the meantime each can accept those which are most in harmony with his own spiritual wants, and deeply wrought-out convictions. The majority of mankind are by their hard lots, their want of leisure, their gross ignorance, their utter indifference, content to let things go on as before. Let each man believe, but understand what it is that he is believing, and not take it on credit, like the Hindu, from past generations.

ROBERT NEEDHAM CUST.

April 21, 1897.

ART. IV.—HORACE.

HORACE is, in no unpleasant sense of the word, the most egotistical of poets. Most of his poetry is about himself; but, as he is an engaging and interesting personality, his readers are in little danger of finding these self-revelations wearisome. Horace has far too much well-bred tact ever to degenerate into a bore, and we feel it a privilege and a pleasure to be admitted to the confidence of such a man. Owing to this continual practice of self-reference, he is more familiarly known to us than almost any other writer of Antiquity, and from his own writings alone it is possible to construct a tolerably full biography of the poet and to form a fair estimate of his character.

Horace tells us that he was born at Venusia, on the banks of the far-resounding Aufidus, a river in Apulia, in the consulship of Lucius Aurelius Cotta and Lucius Manlius Torquatus, that is to say, in the year 65 B. C. From the fact that a man of such a deeply affectionate nature as Horace was makes no mention of his mother, we may, perhaps, infer that she died in his infancy. Of his father we know a good deal. He was a libertinus, a freedman, that is, a man who had been a slave and gained his freedom. He followed the trade of co-actor, or collector of auction money, and out of his savings bought a farm at Venusia. Detecting signs of exceptional intelligence in his son, he resolved to give him such a liberal education as seldom fell to the lot of boys born in such a low estate. Thus the future poet, instead of being educated at the provincial school at Venusia, was taken to Rome by his father, and sat on the same benches as the children of senators and knights. The son of poor parents at school often has his sensitive nature outraged by the contrasts between his threadbare clothes and other signs of poverty and the display of his richer school-fellows. From the pain of such contrasts Horace was preserved by his father's loving care. "Had any," he tells us in the most autobiographical of his satires, "seen my dress and the servants attending me as is usual in a great city, he would have thought that such expense was defrayed from an old hereditary estate."

Horace's admirable father paid as much attention to his moral as to his intellectual training. Giving up his business in the provincial town of Venusia and leaving his farm to the care of others, he lived with his son at Rome, so as to shield him by his presence from the temptations of the great and vicious city. He also guided his son in the path of virtue by pointing out living examples of the disgrace and misery that follow vice,

on the principle that the impressionable mind of the young is deterred from vice by the example of others, just as intemperate men are often frightened into sobriety by the sudden deaths of their neighbours. "A philosopher," this practical moral instructor told his son, "will give you the right reasons for shunning or choosing things ; it is enough for me if I can maintain the custom handed down from our ancestors, and, so long as you need a guardian, preserve your life and character from ruin ; when mature age has strengthened your body and soul, then you will swim without corks."

The time for him to swim without corks, if we may borrow his father's homely illustration, came when he left school at Rome and went alone to finish his education in the philosophical schools at Athens. How his father managed, out of his probably scanty earnings, to defray the cost of his son's liberal education at Rome and Athens, we do not know. He had evidently nobody else in the world to care for, but his one beloved son, and thought no sacrifice too great in his determination to secure his future. Many similar instances of self-sacrifice for the education of their children could be found among Indian parents. It is pleasing to find that Horace, to the end of life, never forgot his debt of gratitude. Had Horace been a snob, he would have tried to make his noble friends in after life forget the fact that he was sprung from an almost servile origin. Horace, however, was no snob. When his detractors cast in his teeth the fact that his father had been a slave, he replied in a proper spirit to the taunt :

"So long as I have my senses, I trust I never shall be sorry of having had such a father ; and may I never defend myself as so many do, who say it is no fault of theirs, that their parents were not freeborn and illustrious. Utterly different is my language and my sentiments from theirs : indeed, if nature bid us resume the journey of life from a certain year, and choose such parents as each would prefer to suit his ambitious longings, I should be content with mine, and unwilling to select those distinguished by the fasces and chairs of office."—*Lonsdale & Lee's Translation.*

It is a pleasure to dwell upon the relations that existed between Horace and his excellent father for more reasons than one. In the first place history is so full of the sayings and doings of great men, that it is a relief to get by accident some details about a man of ordinary abilities. In the second place Horace's father is a model of what the parents of great men ought to be. Had he not, like the fathers of Milton and Pope, had sufficient shrewdness to recognise some specially bright sparks of intelligence in his son, and had he not had the fatherly affection and spirit of self-sacrifice necessary to nurse them into flame, Horace might have lived and died unknown in Venusia, instead of writing works to be the delight of future

generations to the end of the world. Most of us see too clearly that we can never ourselves become great men ; but it is always possible that we may become so vicariously in the persons of our children. It is therefore incumbent on all parents to remember that their children may turn out to have the genius to do great good and harm to future generations, and, in doing their duty to their children, they may be guided and inspired with hope by the example of an old Venusian farmer and collector of auction money who began life as a slave.

When Horace was studying philosophy and dabbling in Greek verses in Athens, a great event happened. It was then that the assassination of Julius Caesar took place, and the civil war that ensued soon engulfed the young student in its vortex. Brutus, the leader of the regicides, came to Athens ; and both his philosophical renown, celebrated in Cicero's dialogues, and his political views commended him to the young aristocrats studying there. Horace also took up the Republican cause with the enthusiasm of youth, and, in spite of his low birth, was appointed to the high office of military tribune in the army of Brutus, from which we may conclude that his intellectual powers had given him a position of authority and influence among his fellow students. He fought and fled at the great battle of Philippi, which overthrew the Republican party. He himself says that he threw away his shield; but this is perhaps not to be taken quite literally. The Greek poet, Archilochus, had long before described in verse how he threw away his shield, and Horace perhaps used this expression to assimilate his fortunes as closely as possible to those of his poetical predecessor. When he returned to Italy, the farm to which he had succeeded on his father's death had been confiscated, like Virgil's, and assigned to veterans belonging to the victorious faction. He was then reduced in circumstances, and, as he himself tells us, bold poverty impelled him to write verses. How before the days of printing and copyright anyone could support himself by writing verses, which could be copied *ad libitum* by the clerks of any rich man, is a puzzling question which has not been satisfactorily settled. The pursuit of literature without the support of a patron seems at any rate to have been an unsatisfactory mode of earning a livelihood, from which Horace was presently rescued by the good offices of his friends. Virgil and Varius recognised the power displayed in the violent satires which mark the first period of his literary career, and introduced him to Maecenas, the great minister of Augustus, whose name has become so famous in connection with Horace and Virgil, that to this day any rich and munificent patron is called a Maecenas. Horace tells us how, when he was brought into the great man's presence, he was so nervous that

he could speak only a few words spasmodically. However, the interview had the desired effect. Horace was admitted to the favour and friendship, first of Maecenas, and then of Augustus. The former gave him a farm among the Sabine hills, which not only secured him against the fear of want, but also provided him a picturesque retreat whenever he was tired of the bustle of Rome or oppressed by its heat.

Henceforward Horace was definitely enrolled among the Augustan poets, whose chief duty was to celebrate the glories of Augustus and the new Empire he had established on the ruins of the old Republic. A strange position it must have been for the man who had a short time ago been selected by Brutus, the tyrannicide, to command a legion in the battle of Philippi. It was an old story often to be repeated in the world's history. No doubt the irreconcilables that still remained among his old associates spoke of him in the spirit, if not in the words, of Browning's *Lost Leader* :—

“Just for a handful of silver he left us,
Just for a riband to stick in his coat,
Found the one gift of which fortune bereft us,
Lost all the others she lets us devote.

* * * * *
We shall march prospering—not thro' his presence :
Songs may inspirit us,—not from his lyre ;
Deeds will be done—while he boasts his quiescence,
Still bidding crouch whom the rest bade aspire.”

His case is very similar to Dryden's conversion to Roman Catholicism in the reign of James II. But we must not judge either of them very harshly. It is not impossible that a political or religious conversion may be sincere, although it happens to coincide with the material interests of the person converted. After mature reflection Horace may have come to the conclusion that the old Republic was no longer possible, and that the rule of Augustus, which promoted the peace and prosperity of the civilised world, long distracted by civil wars, was the best form of Government that could be reasonably hoped for. Horace was certainly far from being a servile dependent in either his actions or his writings. Although the favoured poet of the Augustan Court, he no less than three times mentions with high honour the name of Cato, who refused to yield to Caesar's power when all the rest of the world lay prostrate at his feet. So far from going out of his way to seek the favour of the Emperor, he appears for a long time to have received his advances coldly, so that, in a fragment of a letter preserved by Suetonius, Augustus reproaches him as follows: “Know that I am angry with you, because in most of your writings you do not choose to hold converse with me. Can you be afraid that your seeming to be intimate with me will

discredit your name with future ages?" and again he writes: "If you are so haughty as to scorn my friendship, I am not on that account disdainful in return." Horace refused to leave Maecenas to become the Private Secretary of Augustus. With Maecenas he was on the most familiar terms of equal friendship. When Maecenas was discontented at his long absence, Horace, in one of his poetical epistles, with admirable urbanity, insisted upon his right to control his own movements, and plainly intimated that he was ready to give up everything, even his Sabine farm, rather than sacrifice his independence. Such were the terms on which the famous friendship between Horace and Maecenas was maintained. There can be no doubt of its being a sincere friendship, based on deep mutual affection. So great was the affection of Maecenas for Horace that, at the hour of his death, his last words to Augustus were: "Be mindful of Horace, as you would be of myself." Horace did not long survive his friend and patron. In one of his odes he had declared that he would not live long after the death of Maecenas, and the prophecy was fulfilled. Horace died within a month of the date of that event, at the age of 57, in the year 8 B. C., and was buried close by his tomb on the Esquiline Hill.

Horace is as communicative about his personal appearance and character as about the chief events of his life. In his youth, he tells us, he was strong in body, and his black hair clustered thick above his forehead. As he grew older, he became prematurely grey, and so corpulent that Augustus compared his short round figure to a full-bellied drinking vessel. His eyes became weak, and his health often required change of air and medical attention. As to his character, besides the general impression that we draw from his writings, he directly tells us that he was hot-tempered, but that his anger was not implacable. —

There has been much discussion among the learned as to the chronological order of Horace's poems. The general results of these investigations are roughly as follows. In the beginning of his literary career he composed satires; in the middle, between the age of thirty and forty, lyric poems; and then, towards the end of his life, he reverted once more to didactic poetry, in the form of epistles. Thus his poetry divides itself easily into two classes, lyric and didactic.

Although his lyric poems were written when his intellectual powers were at the highest pitch of vigour and maturity, and before advancing years had begun to affect the power of his imagination, and although it is on them that he based his proud boast that he had built for himself in his verse a monument more lasting than brass and higher than the royal pile

of the pyramids, I nevertheless do not propose to dwell upon them now. They are far from being destitute of imagination, or high feeling, or the other characteristics of the best lyric poetry ; but nevertheless the fact remains that their chief excellence is in form rather than in matter, in the exquisite versification and skilful manipulation of words rather than in weighty thought or original ideas. Thus it is that Horace has always been the most untranslatable of poets, and will remain so in spite of Gladstone's brave attempt to communicate his charm to English readers. Such being the case, I should be merely wasting time if I were to try to give those who cannot read him in the original an idea of Horace's lyric art, by quoting translations in prose or verse. We may, therefore, confine our attention to Horace's Satires and Epistles, the interest of which is more capable of being communicated to Indian readers, as it lies much more in the matter than in the form.

The Romans, while admitting their imitation of Greek models in other branches of literature, make satire an exception. "Satire," says Quintilian, the great Roman literary critic, "is all our own." This claim to originality is sufficiently well founded. Absolute originality is no doubt a chimera in this, as in everything else. Not only in Greek, but also in Hebrew, and I suppose also in Sanskrit literature, satiric touches are to be found in every species of composition. The censorious spirit is such a strong element in human nature that it finds expression here and there in all branches of literature. The comedies of Aristophanes are full of the most violent and pungent satire expressed in a dramatic form. All that the Roman claim really amounts to is this, that they constituted a definite species of poetry, the main object of which was to lash the vices and ridicule the follies of mankind, and so point the way to a better life. It was, however, a considerable time before the Latin word satire got any such definite meaning. Some of the poems of Ennius were grouped together under the title of Satires ; but the term as applied to his poems merely meant a miscellaneous collection of poems on all kinds of subjects. The first satirist in the modern sense of the word was Lucilius, who lived from 148 to 103 B. C., but even in his fragments we find traces of the composite character of the satires of Ennius. One of his so-called Satires was an account of a journey ; another was an epistle to a friend ; a third was devoted to questions of grammar and orthography. But in the main they were real satires in the modern sense of the word, that is, poems devoted to the exposure and punishment of vice and folly. Horace, as a satirist, in most respects followed the lead of Lucilius, from whom he differed chiefly in the greater care he devoted to the

art of composition. Horace says that Lucilius "would trust his secrets to his books as to faithful companions; let things turn out ill or well, to them he had recourse; so that all the life of the old poet is open to our view, as though painted on a votive tablet," and the same might be said with equal truth of Horace. Lucilius' journey to Sicily is the model on which Horace composed his account of his own journey to Brundisium. The poetical epistles in which Horace expressed the mature reflections of his declining years were probably suggested by one of the satires of Lucilius, which is couched in the form of a letter to a friend. It is probable that, if the lost satires of Lucilius were recovered, we should find that Horace borrowed from him about as much as Virgil borrowed from Homer. There was, however, of course, no attempt at secrecy in the matter. The satires of Lucilius were familiarly known to every educated Roman, and Horace openly professes himself a follower of the older poet.

Horace's Satires and Epistles were written at different periods of life, separated by the period of his prime, which he devoted to Lyric poetry; but they may be conveniently treated together. Although he distinguishes them by the different titles of Satires and Epistles, he sometimes groups them together as *sermones*, discourses in metre, unworthy of the name of poetry, and therefore very different from his real poems, his Lyric odes. Both the Satires and the Epistles are in the main didactic, and give Horace's opinions on things in general; on civic Rome, on rural Italy, on his associates, his enemies, and himself. The Horace of the Epistles is the same man as the Horace of the Satires, though advancing years, to him, as to Thackeray, whom he resembles in many respects, gave mellowed and gentler and less acrimonious views of life.

Perhaps the most interesting feature in these Horatian discourses is the vivid picture they give of the familiar life of the great city in which the poet lived. Historians tell us of the foreign and civil wars, and treaties, and political changes that Rome underwent, but with Horace as our guide, we can, in imagination, walk the streets of Rome and study with contemplative eye the interests and pursuits of her citizens from sunrise to sunset.

Let us start on a stroll with our poet through Rome in the early morning, and see what is to be seen. The great city is awakening. The shopkeepers are opening their shops, and the carts are groaning through the streets, bringing in the country produce with which they are laden. Our guide is rather sleepy at first. He has been up long before daybreak, reading hard by candle-light, as is his custom. We are impressed by the sight of a dash-

ing huntsman hurrying through the street with a large company of followers and a great display of all the paraphernalia of hunting. Horace knows him well. He is a mere sham hunter, who will return in the evening in triumph with a fine boar, but it will be one that he has bought on the sly in the public market! Crowds of school-boys are strolling like snails unwillingly to school, with their satchels slung to their left sides, and Horace thinks of the days long ago when, accompanied by his father, he went to attend the classes of the stern Orbilius, whose propensity for flogging has won him an unenviable immortality in the verses of his pupil. Quicker is the step of the clients who are hurrying off to pay the early morning visit, the neglect of which duty would be regarded as a grave offence by their haughty patrons. The distances at Rome are very long, and the client who has unfortunately to visit two patrons, one on the Quirinal and another on the Aventine Hill, has a good deal of pedestrian exercise before him. Some of these early visitors carry with them cakes and fruit with which they hope to buy the affections of childless old men, and so win a place in their wills. The streets soon get crowded, and progression is about as difficult as it is in Abdul Rahman Street, Bombay, or in the Bara Bazaar, Calcutta. Nor is the traffic so regulated as to be free from danger to life and limb. The bustling contractor hurries along with his mules and porters. A great crane hoists at one moment a stone, at another a huge beam, either of which may fall on the head of the passer-by. Melancholy funerals have to contend for a passage with strong waggons, and the foot-passenger has to keep out of the way of both. If India's loose buffaloes and sacred cows are absent, their place is supplied by mad dogs and filthy pigs running amuck through the streets. Bravest in facing all these risks and discomforts is the candidate for office, who has to ingratiate himself by hook or by crook with the common people in order to secure their votes. The troublesome electors like to be recognised and addressed by their proper names. So the candidate is accompanied by a slave called a nomenclator, whose special duty it is to whisper to his master the names of all the voters they meet, and secretly nudge him in the side, when they come near any particularly influential member of the tribes. Such a one has to be shaken warmly by the hand, even across a train of intervening carts, and must be cordially adopted as father, if he is an elderly man, or otherwise as brother. A group of noisy boys is surrounding a plainly dressed man with a long beard. They are trying slyly to pluck his beard, and he is rushing after them with his stick, and, in the violence of his anger, hurling at them language surely unbecoming, as proceeding from the lips of the mightiest of mighty monarchs.

For such he is in his own estimation, being a Stoic philosopher, and therefore not only an excellent shoemaker, carpenter, singer, and musician, but also, *in posse* if not *in esse*, a great king, theoretically over everything, practically, however, not the master of his temper in such trying circumstances as those to which he is now exposed. Amid such scenes as these, the morning passes away, and the heat of the midday sun makes it advisable to go home and take a siesta.

In the afternoon we discuss the conflicting attractions of the various amusements that the great city has to present for us. Shall we go to the gladiatorial shows, or the pantomime, or the Campus Martius, or shall we attend the recitations of one of the many poets who are trying to win the popular ear? It is no good trying to do everything at once, so we decide to favour the theatre with our patronage. The audience is a large and noisy crowd in which the vulgar spectators have it all their own way. An actor appears on the stage, the boards of which are sprinkled with saffron. The crowd greet him with clapping of hands. What has he said to elicit such loud applause? Nothing. That which pleases them is his rich robe of Tyrian purple and the ornaments of foreign manufacture with which he is profusely decorated. In fact, we soon find that, among the Romans of the Augustan age, the theatre is intended much more to gratify the eye than the mind.

London theatres to-day go to great extremes in their exhibitions of the decorative art and spectacular effects; but they are as nothing to the Roman imperial stage. For four mortal hours, if Horace will allow us to sit so long, we see the stage traversed by moving shows. A city is supposed to have been captured, and crowned kings with their hands tied behind the back, works of art in silver and ivory, litters, chariots, bands of foot-soldiers, squadrons of horse, and ships, cross the stage in long procession. The climax is reached when a giraffe and a white elephant are led before the eyes of the gaping audience. Then the uproar is tremendous and the hubbub of tumultuous applause is absolutely deafening. When we express our surprise at the character of the entertainment, our genial host tells us that, a few days ago, he was present when an attempt was made to put on the stage a rational drama. The audience would not stand it, and broke out into loud clamours, demanding that the Manager should immediately produce upon the stage a bear, or a pair of pugilists. When the knights and other respectable members of the audience wished to give the play a fair hearing, the noisy crowd were ready to decide the question in debate by fisticuffs; so they had to be given their way.

When we leave the theatre, the sun is low in the heaven. In the cool of the lengthening shadows we stroll through the

market, pricing cabbages and joining knots of people round some amusing pretender to prophetic inspiration. This is how Horace delights in spending his time before and after sunset. If he is not dining with Mæcenas, he will, perhaps, ask us to join him at his frugal meal, where he will entertain us with such a bright succession of anecdotes, that it will be long before we have any inclination to go to bed. The other guests are one or two of the poet's trusty friends. Thackeray says somewhere: "I hate a man who goes and eats a friend's meat and then blabs the secrets of his mahogany." In like manner Horace promises us that we shall meet among his guests no one base enough to divulge abroad the confidences elicited by his good old Sabine wine, which reveals the secrets of the reserved, gives eloquence to the taciturn, courage to the timid, and drives away for a time the cares of life from the weary mind.

As a moralist, Horace seems to resemble Thackeray more than he resembles any other ancient or modern writer. Exact resemblance, however, cannot be expected to exist between any two men of genius. There are, in spite of the general resemblance, striking points of difference between the genius of Thackeray and that of Horace, which are certainly not to the advantage of the Roman. Thackeray has continually before his mind's eye a far higher ideal of virtue than Horace ever knew, and his soul burns with a far fiercer indignation against wrong and a far intenser sympathy with human suffering. A still more striking contrast is to be seen in their attitude towards the female sex. Thackeray is inspired with a holy reverence for good women. He distinctly tells us that men never attain to the deep affection and self-sacrifice of which their wives and daughters are capable. His Lady Castlewood is, perhaps, the finest idealisation of the female sex to be found in the whole range of literature, although the character is saved from unreality by the presence of a few characteristic feminine foibles. Let us now turn to Horace, and ask what is his ideal of womanly excellence. The answer is a strange blank. We read through his Odes, and his Epodes, and his Satires and his Epistles, and we find that not in a single passage does he mention with true respect or honour any woman, real or imaginary. This defect is not to be attributed to the time in which he lived. In Octavia, the sister of Augustus, the age had as conspicuous an instance of womanly virtue as any poet might wish to celebrate.

Nevertheless, while admitting these striking points of contrast, it may well be maintained that there is much general resemblance between the moral teaching of Horace and of Thackeray. Both of them were men moving in the best society

of great capitals. One of the chief characteristics of the polite social circles they frequented was a cultivated urbanity, which appears in an unwillingness to give offence, or hurt the feelings unnecessarily, and in the careful avoidance of any approach to ill-bred arrogance. The position of moral censor is naturally an invidious one. We are all disposed to be offended with anyone who puts himself as it were on a higher pedestal and censures our vices and follies, and this feeling is often so strong that it prevents us from listening to the most excellent moral lessons. Both Horace and Thackeray display admirable tact in escaping this rebellious feeling on the part of their readers, which often mars the effect produced by the wisest sermons. The chief method they employ to win the hearts of their readers is the same. It is this. They both identify themselves to a large extent with those whom they are instructing and attribute to themselves a large share of the folly they are rebuking. Thus Thackeray, in his *Snob Papers*, writes under the name of Mr. Snob, as an indication that he did not profess himself to be entirely free from the fault he was satirising. "Do I wish," he exclaims, "all Snobs to perish? Suicidal fool, art not thou too a Snob and a brother?" As another example of this practice, which permeates all Thackeray's moral reflections, may be quoted the following passage out of the *Round About Papers* :—

"We somehow greedily gobble down all stories in which the characters of friends are chopped up, and believe wrong of them without enquiry. In a late serial work written by this hand, I remember making some pathetic remarks about our propensity to believe ill of our neighbours—and I remember the remarks, not because they were valuable or novel or ingenious, but because, within three days after they had appeared in print, the moralist who wrote them, walking home with a friend, heard a story about another friend, which story he straightway believed, and which story was scarcely more true than that sausage fable which is here set down. O mea culpa, mea maxima culpa! But though the preacher trips, shall not the doctrine be good? Yea, brethren! Here be the rods. Look you, here are the scourges. Choose me a nice long, swishing, buddy one, light and well poised in the handle, thick and bushy at the tail. Pick me out a whipcord thong with some dainty knots in it—and now—we all deserve it—whish, whish, whish! Let us cut into each other all round."

In like manner Horace, in ridiculing Roman follies, continually uses the first person plural. He is much more inclined to say, "*we* commit such follies," than "*you* commit such follies," or "men generally commit such follies."

Another point of resemblance between Horace and Thackeray is their fondness for the drunken Helot method of moral teaching. Everybody knows how the ancient Spartans warned their young men against the evils of strong drink by exhibiting to them the degrading spectacle of a Helot made drunk for the

purpose of affording them a moral lesson. Thus Thackeray, after drawing the picture of Captain Bull, remarks that "perhaps the only good action he ever did in his life is the involuntary one of giving an example to be avoided, and showing what an odious thing in the social picture is that figure of the debauched old man who passes through life rather a *decorous Silenus*, and dies some day in his garret alone, unrepenting, unnoted." This was the kind of moral teaching that Horace's father had used in instructing his son by word of mouth, and that Horace followed in his literary works, and continued to apply to himself as a species of moral discipline in his efforts to rise to a higher life. "Through this education," he tells us,—

"I am sound from all ruinous vices, though I am troubled with moderate and pardonable failings; perhaps, too, a large deduction even from these has been made by advancing years, free-spoken friends, my own reflections; for I am not wanting to myself, whenever my little couch or arcade receives me. 'This,' I think 'would be more correct; acting so, I shall do better: so will my friends find me pleasant. A certain one in this did not so well: am I to be so heedless as to behave like him?'"—*Lonsdale & Lee's Translation.*

Let me quote one or two out of many instances of this tendency. In his third Satire Horace is preaching indulgence in our judgment of our friends. Just as parents minimise the defects of their children, and say that a child with a squint has a slight cast in his eye, so we ought to extenuate the faults of our friend. But, he goes on, we do the very opposite:—

"We invert even virtues, and, when a vessel is pure, desire to smear it. There lives amongst us an honest soul; 'Ah,' say we, 'a poor creature:' to the cautious man we give the name of dull. Another avoids every snare set for him, and never exposes himself to attack, as he lives in the present age, where keen envy and calumnies are so rife; he is a sober-minded, careful man, but we call him false and sly. Or is there one of character too undisguised (just as I at times have thrust myself on you, Mæcenas), one who, when his friend is reading or meditating, interrupts and annoys him with trifling talk; then we say: "Plainly this man has no common tact."

Alas, how ready we are to sanction a law that presses hard on ourselves! For no man by nature is faultless; the best man is he whose soul is troubled with fewest faults. A pleasant friend, as is but fair, will balance my faults by my good qualities, and incline the weight of his judgment to the latter, if they be more numerous, in case he desires my love."—*Lonsdale & Lee's Translation.*

Again, in the epistles, when laughing at the passion for scribbling in his time, he uses the first person and includes himself among the offenders. "Now," he writes,—

"All glow with one poetic passion; boys and grave fathers alike crown their locks with chaplets at their banquets, and dictate verses. I, who declare I am no poet, am found to tell more lies than the

Parthians, and, before sun-rise, wake and call for pen, and paper, and writing case. He who was never on board, fears to steer a ship; none but a professional man dares to prescribe southernwood for a patient, physicians undertake a physician's duty; artizans alone handle tools: but, learned and unlearned, we scribble verses, all alike."—*Lonsdale & Lee's Translation.*

Horace's satires and epistles are full of sketches of characters the imitation of which is to be avoided by himself and his friends, such as the scurrilous buffoon, the malignant back-biter, the glutton, the vulgar parvenu, the avaricious miser, and the reckless spendthrift. Although both Thackeray and Horace—Horace more rarely—, on occasion, work themselves into fiery indignation, both of them are more ready to laugh at the follies, than to lash the vices, of mankind. This is the acknowledged principle of Horace, who asks—

Ridentem dicere verum quid vetat?

What prevents one from telling home truths with smile?

It is almost impossible to resent the good-natured censure of the witty moralist who puts himself on a level with ourselves and gilds the pill of satire with so much wit and geniality. Persius, a later Roman satirist, well expresses this characteristic of Horatian satire, when he draws a contrast between Horace and Lucilius, as follows:—

"Lucilius scourged the city—You, Lupus, you, Mucius,—and broke his grinders on them, while Horace *admissus circa prae-cordia ludit*, plays round the heart into which he has gained an entry."

The last point of resemblance to be noticed between Thackeray and Horace is the conversational style in which they convey their instruction. Horace's Satires and Epistles have the wit and humour and variety of the finest well-bred conversation. There is no striving after effect; but lively anecdote, wit and humour, irony and earnestness succeed each other in quick succession. We must conclude by remarking again that, in moral elevation, the Latin poet is far below the English novelist. Sometimes he rises to a tolerably high level, as when he extols the virtue of patriotism, or the duties of friend to friend, or sketches the ideal poet as one who "forms the tender lisping mouth of the child; even in their early days turns the ears of the young from evil words; fashions the heart by kindly precepts correcting roughness, malice, and anger; tells of virtuous deeds, and furnishes the rising generations with illustrious examples, comforts the helpless and sad of soul."

Well would it have been for him and for other great poets if they had constantly acted up to this lofty ideal. As a rule, Horace does not express such high sentiments. His great guide in life is the doctrine of the golden mean.

If he ever transgresses that doctrine, he does so in the excessive adherence that he pays to it, by applying it in circumstances to which it is inapplicable. The wise man, he tells us, deserves the name of a fool if he exceeds moderation in pursuit of virtue itself. After inculcating moral precepts on a young friend, he ends by telling him :—"If you lag behind or vigorously outpace me, I neither wait for him that is slow of foot, nor strive to overtake those who go before me." His morality was, after all, the kind of cultivated selfishness, that makes a man a pleasant man of the world and a favourite in Society. He does not rise much above the moral atmosphere by which he was surrounded. Such genial, self-satisfied souls as his are not the stuff of which great social reformers are made. If we want the noblest moral teaching, we must not go to Horace, but to Marcus Aurelius, Epictetus, or Carlyle, or to the great religious teachers of the world. Nevertheless such men as Horace play a not unimportant moral function for mankind. If they do not inspire men to the noblest self-sacrifice, the idealised common sense that they inculcate commends itself to average men of the world who are unsusceptible to higher inspiration, but will listen, perhaps, to the words of instruction proceeding from moral teachers who are men of the world like themselves, especially when the instruction is conveyed with the tact, friendliness, good nature and wit that characterise the didactic writings of Horace.

MICHAEL MACMILLAN.

ART. V.—INDIAN BAMBOOS.

Annals of the Royal Botanic Garden, Calcutta, Vol. VII.—

The *Bambuseæ* of British India. By J. S. Gamble, M. A., F. L. S., Conservator of Forests, School Circle, and Director of the Imperial Forest School, Dehra Dún. Calcutta; printed at the Bengal Secretariat Press, 1896.

The Bamboo Garden. By A. B. Freeman Mitford, C. B., London: Macmillan & Co., Limited.

THE Botanic Garden, at Sibpur, near Calcutta, has a world-wide fame, and many famous botanists have in their turn held charge of it; but the thousands of Calcutta holiday-makers, whom the liberality of the Bengal Government allows to roam about and picnic in its beautiful shades, know as little of the true meaning of its existence, or of the amount of good scientific work carried on within its precincts, as do the Londoners and country visitors who in fine weather resort in crowds to the Royal Gardens at Kew. Horticulture and Arboriculture are probably considered by them to be the be-all and end-all of both places. The offices and herbarium buildings are not in evidence, and have to be sought for by those who wish to study in them; though students are in both Gardens made very welcome, and helpfully shown where to find what they want. At Calcutta, as well as at other botanical establishments in India, the officers in charge were, until a comparatively recent date, still designated merely Superintendents of the Gardens, and this no doubt helped to foster the popular impression: but since the institution of a new Department of the Government of India, to which was given the care of botanical operations, as well as of the Land Revenue, Agricultural Statistics and Experiments, and various other branches of public work and expenditure, a more rational view has been taken of the position of these officers, as well as of the importance of their work. A systematic botanical survey of British India was undertaken, and a botanical department was constituted, the Superintendents of the various gardens being appointed Directors of it for certain territories. The senior of them, Dr. George King, the Superintendent of the Royal Botanic Garden, Calcutta, and Superintendent of the Cinchona Plantations in British Sikkim, became the Director of the department, with immediate charge of Bengal, Assam, Burma, the Andaman and Nicobar Islands, and North-Eastern Frontier expeditions; and he annually submits to the Government of India a report of the operations of the whole department. As there is also at the Calcutta Garden another

highly qualified botanist, Dr. Prain, as curator of the Herbarium, the Bengal Government left the charge of the garden and the Cinchona operations—there being a botanical assistant for these also—in Dr. King's hands: but in the North-Western Provinces there is only one botanist, Mr. J. F. Duthie, and the local Government relieved him of the horticultural part of his work, and he is now simply Director of the Botanical Department, Northern India, with his head-quarters in the Garden at Saharanpur, and his office and laboratory in the Herbarium there. Mr. Duthie's charge in the survey comprises the North-Western Provinces and Oudh, the Punjab, the Central Provinces, Central India, Rajputana, and North-Western Frontier expeditions. There are also two other charges—South India and West India.

Administration reports are, of course, annually submitted by the Superintendents of the Botanic Gardens, and these and the reports of the Director of the Department are printed and become obtainable by the public, and receive some notice in the daily newspaper press; but it is the results of the work which they record that are of value, and the reports cannot be considered in the light of additions to botanical literature. Papers recording the results of scientific research carried on by the officers who have charge of the gardens and herbariums in the midst of the daily press of their administrative duties, and during their hard-earned periods of short leave and furlough, appear from time to time in the Transactions and Journals of the Asiatic Society of Bengal and the Natural History Society of Bombay, and in the Annals of the Indian Medical Service (which has contained many good botanists), while others are published by the Linnean and other scientific societies of the United Kingdom, and in various independent periodicals published there. But it is only recently that an Indian Government has recognised it to be a duty to resume the practice that existed in the time of the East India Company, and to publish in a separate form the results of the researches of individual botanists who are in its service.

"THE ANNALS OF THE ROYAL BOTANIC GARDEN CALCUTTA," seven volumes of which have now been published, is an undertaking which is being carried out in a style worthy of the institution whose work it records, and which also reflects great credit on the Bengal Government and on the Press from which it issues. The proportion of plates to letter-press is very liberal; and this adds to the attractiveness of the papers, while it enables them to be more easily and quickly read. The execution and reproduction by lithography of the drawings leaves little to be desired; and it is, perhaps, only because of the comparative cheapness of the work of native

artists and lithographers that this sumptuousness of illustration is possible. Minute and careful instruction by the writers of the papers is of course necessary, for such draughtsmen are made (in the Government Schools of Art), and are not born botanists. The Calcutta Annals have already treated of several orders and genera of plants which are of great economic importance. The Superintendent of the Garden, Dr. King, led off, in the first volume, with "The Species of *Ficus* of the Indo-Malayan and Chinese countries;" and in an appendix to that paper he described some new species from New Guinea. It is only necessary to mention to the lay reader *Ficus carica*, Willd., the edible fig, and *Ficus elastica*, Roxb., a principal source of supply of India rubber, to indicate the importance of this genus. Volume 2 consisted of papers on certain genera of timber trees: Volumes 3 and 4 contained papers on some orders and genera, species of which yield timber, edible fruits, and spices—two of them being by Mr. D. Prain, the Curator of the Herbarium; and Volume 5 contains, as Part I, a Century of Indian Orchids, by Sir Joseph Hooker, and, as Part II, a Century of New and Rare Indian Plants, by P. Bruhl and Dr. King. The publication is, it will be seen, not restricted to producing the papers of the Calcutta or other Indian officials, but is made available for other botanists who have utilised the material accumulated in the splendid Calcutta Herbarium.

The subject of Volume 7 of the Calcutta Annals—"THE BAMBUSEÆ OF BRITISH INDIA," is of an importance second, perhaps, to none which could have been selected; and there is probably no British botanist who could have done such full justice to it. Mr. Gamble, as a forest officer of great experience in various parts of India, is of necessity familiar with bamboos, and knows what an important part of forest produce they are, and how necessary it is that forest officers should be able to distinguish between the various genera and species; and, owing to the peculiarity they have of generally not flowering until the final year of the life of the clumps, the difficulty of so distinguishing, or determining the species, is much greater than in the case of plants and trees whose flowering generally is an annual and not a final function. Mr. Gamble seems to have been studying bamboos for nearly a quarter of a century, and in the most practical way possible. Soon after he began his career as a forest officer, after undergoing a thorough training in the Forest School at Nancy, in France, his attention was very forcibly drawn to the difficulties which existed in recognising in the forests, and especially in the great evergreen forests, the trees which were met with, and among them the various species of bamboo. The leaves of

bamboos, especially of the bigger species, have such a very similar appearance that, whether in the forest or from herbarium specimens, it is most difficult to say to which species any given example belongs. In individual clumps, too, the leaves may vary greatly in size and shape, Mr. Gamble says, according to the part they are taken from, so that one cannot always be sure of identification.

"In this way," he says, "I was led to examine closely, in the part of the country in which I was at work from 1872 onwards, such clumps as I met with, in order to see if I could not discover some better characters for certain identification which could be used by the forest staff. In 1872 I had made the acquaintance of the late Mr. Sulpiz Kurz, Curator of the Herbarium of the Royal Botanic Garden, Calcutta, and found that he, too, was greatly interested in the same subject, and was actually engaged in preparing an account of the Indian and Malay species, paying special attention to those characters which were likely to help the forest officers of Burma (in whose behalf he was engaged on his well-known and excellent "Forest Flora") to enable them to distinguish between the many important kinds they came across daily. Mr. Kurz's work on the bamboos began with the publication, in January 1867, in Vol. I. of the then newly established magazine, 'The Indian Forester,' of a paper on 'Bamboo and its use,' which admirable article is still probably the best general treatise on the subject; and was followed in April of the same year by an account of the species known to him to be found in the Indian Archipelago and Malaya, and which he had carefully studied in the Botanic Garden at Buitenzorg in Java. Mr. Kurz's intention had been to give next an account of the Indian specimens, but his sad death at Penang in December 1877 prevented this, though the materials he had collected, consisting of herbarium specimens, drawings, notes and dissections, were left available, and have been fully utilised in the present work. So far as the Burmese species were concerned, his 'Forest Flora of British Burma' had supplied all that was known at that time, but the species of India proper still remained."

In 1887 Mr. Gamble was in England on furlough, and then took his own collections to Kew, in order to compare them with the bamboos in the Royal Herbarium, with the intention of putting together in a short paper some notes on the best means of recognising species.

"Some friends," he says, "and especially Dr. George King of the Calcutta Garden, had recommended me to do more, and their advice was so strongly repeated by Sir Joseph Hooker, K. C. S. I., the late, and Mr. W. H. Thistleton-Dyer, C. M. G., C. I. E., the present, Director of the Royal Gardens, Kew, that I was induced to try my best to carry out their wishes. The result is the present work, which Dr. George King has so kindly assisted me to publish in the Annals of his great establishment."

Besides those in the Herbarium at Kew, the bamboos of several other similar institutions were freely placed at Mr. Gamble's disposal. Dr. King and Mr. Prain, besides giving the loan of those in the Calcutta Herbarium, gave him constantly advice and help. The Saharanpur collections were

placed at his disposal by Mr. Duthie ; those of the Madras Central Museum were lent to him by Mr. E. Thurston, the Superintendent ; and those of the Ootacamund Garden by Mr. M. A. Lawson, Director of the Botanical Department in Southern India. The late Dr. H. Trimen, F. R. S., * lent the collections and drawings belonging to the Royal Gardens at Peradeniya in Ceylon, and gave much additional information ; and Mr. H. N. Ridley, the Director of the Singapore Garden, sent the collection belonging to it, and gave sets of his more recent discoveries in Perak, Penang, and Johore.

Mr. Gamble says that a reproach sometimes cast upon Indian Forest Officers, of apathy in the study of the botany of the countries in which they are employed, must, so far as bamboos are concerned, be emphatically pronounced to be undeserved ; and he devotes a paragraph to acknowledging the signal assistance given him by many of his brother officers in Assam, Burma, Sikkim, Orissa, and the Bombay Presidency, and the Travancore State in the South of the Indian Peninsula,—notably Mr. Gustav Mann, the late Conservator of Forests in Assam, and Mr. J. W. Oliver, Conservator of the Eastern Circle of Upper Burma. In many parts of the Madras Presidency Mr. Gamble had personally collected and observed, while he was Conservator of Forests there. He thanks Mr. G. Gammie, of the Cinchona Plantations in British Sikkim, for sets of the bamboos from the Darjeeling hills, and Mr. C. B. Clarke, F. R. S., President (in 1896) of the Linnean Society, for valuable sets of his collections in Sikkim, the Khasia Hills, and Manipur. And, lastly, Sir Dietrich Brandis, K. C. I. E., late Inspector-General of Forests in India, is thanked for many valuable specimens, and for notes and advice.

With the help and co-operation of so many distinguished and practical botanists and forest officers, added to his own experience in the inspection and exploitation of bamboo forests in large tracts of India, and his twenty-five years' study of his subject in the field, and in the herbarium, Mr. Gamble has produced a book which must carry with it great weight and authority. Differences of opinion as to the specific distinctness of species will always exist among botanists ; but as to the identity of most of the bamboos found in India and the Malayan Peninsula with some of the species described and figured in Mr. Gamble's book, or the differences from them of any new species which may be found in the future,

* Dr. Trimen died, in Ceylon, while Mr. Gamble's work was in the press, at the age of 53, after eighteen years' tenure of office there. An interesting account of his life and career as a botanist is to be found in the "Journal of Botany" for December 1896. His death was a great loss to science.

there ought not to be much doubt, always provided that it has been known to flower, or that specimens of the other parts of the plant are procurable which, in the absence of the inflorescence, are found to be sufficiently distinctive characters for its botanical determination. By the help of the 119 plates of drawings which are given in support of the descriptions of the 115 species any dabbler in botany, or an amateur even, ought to be able to arrive at an identification, while even a skilled botanist would find them of great use. A systematic botanical description of a plant, however carefully written, cannot be read and followed with the rapidity and certainty with which a skilled musician can read a musical composition on paper; and even a glance at a plate, although, as in the case of a tree or a bamboo clump, no picture of a whole plant, or even of a whole stem, can be given, may throw a flash of light across the description which will resolve doubts, and save much time in study.

Of the plates given in his work, Mr. Gamble says:—

“It is well to record that the main drawings have all been done by native artists under my supervision, and chief among these artists was Mahomed Idrees, a student of the Madras School of Art, who worked under my supervision in Madras during 1888 to 1890. The rest have been done by draughtsmen attached to the Royal Botanic Garden, Calcutta, or the Botanical Department, Saharanpur. Some of the plates, as noted in the description, are borrowed; but most of them are from actual specimens, and I have endeavoured to give, for each species, as far as possible—(1) the leaves and leaf sheath, (2) the culm-sheaths, (3) the flowers and inflorescence, (4) dissections of the various parts. These dissections are entirely my own work, and I hope, therefore, that I may be excused for their roughness in many instances. I regret that I found it impossible to draw the parts of these dissections fully to scale, and to indicate their relative size. It would have taken more time than I had available for the work.”

INDIAN BAMBOOS UP TO DATE.

“The tribe of the *Bambuseæ*,” says Mr. Gamble, “is a section of the great natural Order *Gramineæ*, the grasses, and is especially remarkable for containing those large tree-like members of the family which are so characteristic of the tropical regions of the globe, and so useful to man in the localities where they are found. From the earliest times, travelers have been struck with the beauty and importance of the members of the tribe. Ruprecht, in his Monograph, published in 1839, says that the first mention of bamboos occurs in the works of Ctesius, in the letter from Alexander the Great to Aristotle, and in the Natural History of Pliny.” After that there is a long blank until 1571, when Lobelius mentioned bamboos, and they are referred to by nine other writers of various dates, down to J. Burmann in 1737, although in most cases it is difficult to say what species are referred to.

The first writer on Indian Bamboos was Van Rheede, Governor-General of the Dutch Possessions in Malabar, who described and figured two kinds identified as *Bambusa arundinacea*, and *Ochlandra Rheedii*. Pluckenet gave a third species; and in 1750 appeared the "*Herbarium Ambooense*" of Rumphius, who divided the bamboos known to him into eight classes, and these classes again into seven kinds, the identification of which gave work to several botanists; but most of Rumphius's species belonged rather to the Malay Archipelago than to the Malayan Peninsula or British India, so Mr. Gamble does not spend much time on them. Linnæus in 1753 gave only one species, under the name of *Arundo Bambos*, but several species seem to have been referred to under that name, chiefly the common *Bambusa arundinacea*. In 1814, in the "*Hortus Bengalensis*," Dr. Roxburgh enumerated seven species, which he afterwards described in his "*Flora Indica*." Mr. Gamble admits and describes six of these. Ruprecht, in his monograph of 1839, already mentioned, described about 18 species from the Indo-Malayan region, which correspond to about 12 of those described by Mr. Gamble. "Then came, in 1865, the '*Monograph of the Bambusaceæ*' by Colonel Munro, C. B., published in the transactions of the Linnean Society, Vol. XXVI (1870), which is the foundation of our modern knowledge of bamboos. In that work were published descriptions of Indo-Malayan species corresponding to about 70 of those herein given." Of these, 58 were fully known, and 12 partly known, while 3 were doubtful,—in all—73. "The '*Flora Sylvestica*' of Madras, by Colonel R. H. Beddome, described 18 species as indigenous in Southern India, and of these 16 are admitted; while the '*Forest Flora of British Burma*,' by S. Kurz, which appeared in 1878, included 30 species of that country. In the present work 115 species are described, making a considerable addition to those known to Munro; but this number is by no means the end;" for there probably exist in Upper Burma, Tenasserim, and the Malay States, and even in South India also, species, which are suspected either by the collection of a few leaves or by report, and these will require to be described later on, as material for the purpose becomes available. Once before it had fallen to Mr. Gamble to enumerate, though not to describe botanically, the Bamboos of British India and Burma, so far as it was then British. In his "*Manual of Indian Timbers*," published in 1881, Mr. Gamble gave merely the genera and species described by Munro, adding species already described by other authors. The genera were grouped in 3 sections, *Triglosseæ*, *Bambuseæ*, and *Bacciferæ*; and there were 12 genera, of which 57 species were given.

The subdivision of the *Bambuseæ* into sections and genera

adopted by Mr. Gamble is that of the "Genera Plantarum" of Bentham and Hooker. Of the 22 genera given in that work, 14 belong to the Indo-Malayan region, the rest being chiefly American. Mr. Gamble describes (and names) only one new genus, *Thyrsestachys*, which makes 15 Indo-Malayan genera in all. In Engler and Prantl's "Die Naturlichen Pflanzenfamilien" 23 genera are given, one more than in the "Genera Plantarum." The most recently published work on the genera is Baillon's "*Histoire des Plantes*," Volume XII., 1894, in which 28 genera are admitted.

The distribution of bamboos over the earth depends upon climate. They are found more or less in all tropical and semi-tropical regions, but especially in Asia and South America: in Europe there are none. In Australia there are (so the late Baron von Mueller, K. C. M. G., * the Government botanist in Victoria, told Mr. Gamble four species, one only of which has yet been described; and there is one in New Caledonia. In Africa there are species of *Oxytenanthera*, in Abyssinia and East Africa, a *Nastus* in the Mascarene Islands, and four new genera in West Africa, while South Africa has only one species. In America there are many species, but of genera distinct from those of Asia. The distribution of bamboos, it occurs to the present writer, seems to depend only secondarily on climate. Must it not primarily depend upon the nature of the tribe, which demands a certain amount of heat and moisture for the growth and full development of its representatives? Bamboos find these conditions in only certain parts of the world.

Mr. Gamble's descriptions have been drawn up, by the advice of Dr. King, as nearly as possible on a uniform system, giving, in regular order, the characteristics of the chief organs, which are— 1) the CULMS or stems, (2) The RHIZOMES, or underground stems which throw up the culms (ought not the rhizomes to come first? (3) the CULM-SHEATHS, (4) the LEAVES, with their "leaf-sheaths" and ligules, (5) the INFLORESCENCE, and (6) the FRUIT, which usually resembles those of other sections of grasses, but sometimes has interesting and peculiar characters of its own. A few particulars taken from what Mr. Gamble says of the characteristics of the above-named organs of a bamboo plant will be found interesting.

The CULMS, or stems, of all bamboos are more or less cylindrical, hollow in the interior, and separated by partitions into joints. The partitions are called *nodes*, and the portions between them *internodes*. In none of the Indian species

* Baron Von Mueller died while Mr. Gamble's work was in the press.

is there anything like the variation from the cylindric form which is met with in the "square bamboo" of China, *Bambusa quadrangula* Fenzl, an article on which, by Mr. W. T. Thistleton-Dyer, was published in "Nature," August 1885. In some Indian species the cavities of the culms are almost, if not quite, absent, especially in the common "Male bamboo" (*Dendrocalamus strictus*), as regards a certain number of culms in each clump when growing in dry and poor soil; also in *Arundinaria Prainii*, a very thin, wiry, climbing species. The lower nodes of the culms of bamboos frequently bear root scars, or curved, stiff rootlets, surrounding them as a fringe, which sometimes develop and enter the ground. The nodes of some bamboos are furnished with a ring of more or less formidable spines, which seem to be arrested rootlets. Such spines are not of any great length, unless in the case of a species said to occur on the hills between Burma and Assam, with nodal spines between 4 and 6 inches long and very sharp, so that to penetrate the thickets must be a work of considerable danger even to wild animals accustomed to the jungles. In size, the culms of bamboos range from the gigantic culm of *Dendrocalamus giganteus*, which often reaches 100 to 120 feet in length, with a diameter of 8 to 10 inches, down to those of *Arundinaria densifolia*, which is hardly 3 feet at most, with a diameter of $\frac{1}{3}$ inch. In some of the climbing species Mr. Gamble supposes the culms may frequently be longer than even those of the giant "Wabo"—the Burmese name for *D. giganteus*. The longest internodes are probably those of *Teinostachyum Helferi*, which run up to 52 inches. The joints (internodes) of several species (especially *Bambusa arundinacea*, often contain "tabasheer" (or tabachir), a silicious, whitish, floury substance, which has been much discussed from the very earliest times, and is considered in China and elsewhere to be a very valuable medicine. Kurz calls it a secretion, or probably a residuum, which Lindley says the plant is unable to incorporate in its tissues. Kurz says silica is contained in the wood of the bamboo in great quantity, and in one species so much that the wood gives off sparks when cut or struck with an axe. For further account of tabashir Mr. Gamble refers to various works.

The RHIZOMES of bamboos are of two kinds—(1) a short, knotty, thick, solid growth which forms an entangled network below (occasionally pushed up above) the surface of the soil, and which throws out buds developing into culms; and (2) a long, creeping, underground growth, sending out at intervals rootlets into the soil and buds from which the culms arise singly and separately. Most of the Indian

bamboos belong to the first section, and of this *Dendrocalamus strictus* (the 'male' bamboo) and *Bambusa arundinacea* (both already mentioned) may be taken as types.

"The most characteristic bamboo of the second section is *Melocanna bambusoides*, whose long rhizomes have the power of spreading so far and so quickly that vacant spaces in the hills where the bamboo occurs can be covered with the culms in an incredibly short space of time. The species of *Phyllostachys* seem all to have this habit of growth, and two of the newly described *Arundinarias*, *A. Jaunsarensis* and *A. Rolloana*, as also *A. racemosa*, are particularly remarkable for their power of spreading. The length of the rhizome of *A. Jaunsarensis* between the culms often reaches as much as 3 feet, and the rhizomes of this and of *A. racemosa* make good flexible riding canes. Bamboos with long rhizomes near the surface of the soil are very easy to propagate, for at the base of each sucker are buds which are capable of developing. In those with cæspitose culms the rhizomes are much shorter, and the detachment of portions fit for propagation is not so easy, though it is quite feasible and usually successful if a portion of rhizome furnished with good buds and with the roots intact is removed."

The new culms usually develop with the beginning of the rainy season, and species found in more than one part of India send up their culms in the beginning of the chief local rainy season, though that may be separated by an interval of several months in the different localities. The growth of the culms is very rapid: in the case of *Dendrocalamus giganteus* it has been measured to be 25 feet 9 inches in 31 days, and of *Bambusa Balcooa* 12 feet in 23 days; while shoots of *B. Tulda*, according to Roxburgh, rise to their full size, of from twenty to seventy feet in height, in about thirty days. Even in Great Britain the bamboos of tropical countries grow very well under glass with artificial heat; but the comparatively low roofs of the conservatories sadly limit the upward growth of the culms; and the beauty of a clump as a whole cannot be seen in such a confined space as even the largest of them can afford. *Bambusa vulgaris* is said to have grown forty feet in forty days at Chatsworth, the seat of the Duke of Devonshire in Derbyshire; and that species and *Dendrocalamus giganteus* flourish in the Palm House at Kew. The present writer lately enjoyed the rarely granted privilege of visiting Syon House, the seat of the Duke of Northumberland, which is separated from Kew Gardens by the River Thames, and was told that the clump of bamboo which grows under the centre dome of the great conservatory there is of the *D. giganteus* species, and that the large culms have been known to grow twelve inches in twenty-four hours. A year ago this clump had so filled the centre dome that the large palms and other plants were being crowded out, and twenty-three large culms were cut down, and with difficulty cut up and got out of the way. Those now standing

and springing up seem to be six or seven inches in diameter. In such a situation—Mr. Wythes, the head gardener, said—the rate of growth depends greatly upon the weather; a spell of colder weather at once checks it, by causing a fall in the temperature of the ground outside, the chill being communicated to the limited area covered by the heated conservatory. There are at present no such large culms of *D. giganteus* at Kew, the largest being only about $3\frac{3}{4}$ inches in diameter.*

The CULM-SHEATHS, which are seen covering the young culms as they emerge from the ground, and which, as the culms rise higher, are found to be attached round the nodes, are very interesting; for, says Mr. Gamble, they are almost always of shapes which are characteristic of the species to which they belong. In regard to this, Munro, writing in 1866, said—"The spathes, or large sheaths, which cover the nodes of all bamboos vary much in size and appearance, and will, I think, afford good characters when they are more studied and better known. Dr. Brandis has paid considerable attention to this subject; but these sheaths do not appear in general to have attracted the notice of collectors." Mr. Gamble says—"Kurz, too, held strongly the opinion that these culm-sheaths were very

* In answer to a list of questions I sent to him, after my visit to Syon House, Mr. Wythes has very kindly given me the following information as to the clump of *Dendrocalamus giganteus* in the Conservatory there:—It was planted about 70 years ago, but whether from seed or offset, he cannot say. The height of the dome is 70 feet. The culms begin to start from the ground mostly in June or July, from the date when the house is first kept warm, if the weather is good. In favourable summer weather, they grow 60 feet in six weeks. Good culms reach the top of the dome in the first season, but remain branchless till the next spring, when they resume growing and throw out branches, which come into leaf in twelve months or more from first springing up. If culms spring up before June or after July, they fail to reach the top of the house, and often stop half way. The usual diameter of the culms varies, according to the age of the part of the rhizome from which they spring, from 4 to 7 inches; but a culm has been measured which was 9 inches in diameter and 28 inches in circumference. The average diameter now may be put at $6\frac{1}{4}$ inches. The culms have to be cut out every two years to prevent their pushing the roof off, so that the growth is hindered by the insufficient height of the building. Some culms, from 4 to 6 years old, cut out last year had walls averaging half-an-inch in thickness. The oldest culms now remaining are ten years old, owing, it is presumed, to the heavy thinning made to prevent their becoming unmanageable. These hot-house clumps present at the base an appearance very different from that due to the natural habit of the species, as shown in the pictures of the Peradeniya Gardens clumps, mentioned in a later part of this article, the culms being well apart instead of close set. Mr. Wythes says that *D. giganteus* at Syon House has never flowered: Mr. Gamble thinks this is, perhaps, owing to the plant never getting any slack season, as it would in the open in Burma, in which to accumulate the reserve material necessary for the production of flowers and seed.

important in classification, and his collection of drawings of culm-sheaths, deposited in the Herbarium of the Royal Botanic Gardens, Calcutta, has proved of great service to me. Thanks to the exertions of many friends and to the facilities for collection I have myself enjoyed, there are not many species herein described of which the sheaths are unknown; and a glance at the drawings of them, and still better at the herbarium sheets, will show that almost all have some definite characteristic which is sufficient, in the absence of the flowers, to identify the species." Culm sheaths have three parts,—*first*, the "sheath" proper, corresponding to the stalk of ordinary leaves; *second*, the "imperfect blade," corresponding to the blade of a leaf, and taking many forms and shapes; and, *third*, the "*ligule*," inserted, as in the leaves of all grasses, on the inner surface, at the junction of the sheath and blade. "There is, of course, in all parts, as Kurz has pointed out, a good deal of difference in size and shape, according as the sheath is taken from the base, the middle, or the top of a culm, or from a side branch; but a little study and experience soon teaches us to recognise the general characters. Almost the only cases I know of in which the culm-sheath fails to yield a distinguishing character are *Bambusa Tulda*, *B. nutans*, *B. teres*, and *Gigantochloa macrostachya*, in which four species the culm-sheaths are very similar in appearance."

The LEAVES of all bamboos are very similar in general appearance, for, although some species have usually large leaves and others quite small leaves, the size depends much upon what part of the plant they are taken from: so that, in respect to determination of species, little value can be attached to the size, shape, or even the nervature of bamboo leaves. Mr. Gamble goes minutely into the nervature; but that is too technical for these pages. The "leaf sheaths" and "ligules" at the base of each leaf below the petiole, or leaf-stalk, often give good characters for the identification of species.

"In regard to INFLORESCENCE, there is great variation among bamboos. Sometimes the spikelets appear on leafy branches, sometimes in gigantic panicles covering a whole culm. Sometimes the spikelets are very few and scanty, sometimes they are exceedingly numerous; sometimes they are distant on the branches of the inflorescence, sometimes congested into large rounded heads." In all parts of the flowers, there is considerable difference in the various species, and in the same genus great variation in the size, length, and number of flowers borne by a spikelet,—e.g., *Arundinaria callosa* may have spikelets two to three inches long, with six to twelve flowers; while in *A. densifolia* they reach barely half-an-inch in length and have only one flower. But Mr. Gamble mentions

certain parts of the flowers which have good characters for classification purposes. He says :—

“ It is only in a few species of bamboo ” (naming them) “ that flowering takes place annually ; in most cases flowering seasons come only at long intervals, and then the whole of the clumps of one species in a given locality flower gregariously and die down after flowering and giving seed. Even in those kinds which may be found occasionally in flower sporadically (e.g., *Dendrocalamus strictus* and *D. Hamiltonii*), general flowerings also take place, and at these the seed produced is usually good, while that given in the sporadic flowering is often poor and of small quantity. All the information which it has been possible to collect has been given under the various species concerned ; but it may be here noted that the information is still incomplete, and many more observations will have to be made and recorded before we can begin to predict the flowering-times of most of the species. It is owing to the long period which elapses between flowerings that our knowledge of the flowers of bamboo is still so imperfect, and that there are still so many species of which the flowers and fruit, and consequently the real position in the systematic arrangement, are unknown.”

To show the importance of knowing what the species of a particular forest or growth of bamboo is, and of being able to forecast the time when it will seed, the following paragraph may be quoted :—

“ In Burma the majority of teak forests are composed of a main crop of bamboos, above the canopy of which appear the crowns of trees and especially teak, and it is only when a year of bamboo seeding takes place that suppressed young teak can get a start or teak seedlings appear. So that it is necessary for forest officers to watch and see when indications of flowering are given, and be ready, after clearing off the dry crop of bamboos by fire, to re-stock as much as possible of the area, either by allowing natural teak to come on, or by sowing or planting artificially. The species which are in this chiefly associated with teak are the “ Myinwa ” (*Dendrocalamus strictus*), “ Tinwa ” (*Cephalostachyum pergracile*), and “ Kyathaungwa ” (*Bambusa polymorpha*).

The FRUIT of the bamboo usually resembles that of other sections of grasses. In the *Arundinariæ* and *Eubambuseæ* the pericarp (skin or covering) of the fruit (*caryopsis*) is thin and closely adherent to it, and the caryopsis is small, more or less resembling a grain of wheat or barley. “ In the *Dendrocalameæ* and *Melocanneæ* the seed is surrounded by a separable pericarp, which is crustaceous in some genera, thick and tough in *Melocalamus* (in which genus the fruit is large, reaching a diameter of 1 to 1½ inches), and large and fleshy in *Melocanna* and *Ochlandra*. In *Melocanna bambusoides* the fruit is large and pear-shaped, often reaching 3 to 5 inches in length, and 2 to 3 inches in breadth ; while in *Ochlandra travancorica* it is often 4 inches long, including the stiff conical beak.”

The DISTRIBUTION of bamboos in India follows the distribution

of the rainfall, and Mr. Gamble shows it in a table which gives the names of the bamboos he describes, with their distribution according to the seven principal regions, namely—(1) North-Western India including Rajputana, (2) Central India and the Deccan, (3) Western Ghats and the Coast, (4) Ceylon, (5) Bengal including Assam, (6) Burma, and (7) Malaya and the Andaman Islands. As already mentioned this list is made up of 15 genera, and 115 species, of which 1 genus, containing 2 species, is new; and, of the total 115, 40 species seem to be new. Many, of course, are found in more than one of the seven regions. Region (1) has 11 species, of which 4 are naturalised or acclimatised; (2)—6, all indigenous; (3)—16, of which only 1 is naturalised; (4)—10, only 1 naturalised; (5)—51, 3 of which are naturalised; (6)—42, 3 naturalised; and (7) has 31 species, of which 2 are naturalised. Mr. Gamble devotes considerable space to the details of this distribution, and in some cases subdivides the regions according to physical characters, and mentions which species are found in mountainous subregions, and which in the plains. The 42 species found in the 6th region, Burma, are, he says, only a beginning: he describes 2 more in an appendix, and says that more new species are likely to be discovered as Upper Burma is explored. The largest Burmese species is the acclimatized *Dendrocalamus giganteus*, of which magnificent plantations exist in various places, and notably near Myanong on the Irawadi River; but not far off in point of size come *D. Brandisii*, *D. Hamiltonii*, *Gigantochloa macrostachya*, *Bambusa Tulda*, *B. burmanica*, and *B. polymorpha*. Region (7), also, Malaya, which includes lower Tenasserim and the Andamans, has so far been only incompletely explored. South Tenasserim is but little known, and only recently two beautiful species have been received thence which may be the precursors of still more interesting kinds to follow. "Thanks to Mr. Ridley of the Singapore Gardens, much information has been obtained regarding the Malay bamboos; but there is no doubt that much has yet to be learned, and that most of the common species of Java and Sumatra will yet be found to belong also to the Indo-Malayan Flora." With the help of Mr. Gamble's book, the determination of species and the detection of new ones will be easier than before.

"The PROPAGATION of bamboo forest is simple enough: it is best done by *seed*, but can be done by taking *root offsets*, though in this case there is always a danger of the resulting clumps flowering when the parent clump flowers (we have seen this clearly in recent plantations at the base of the Saharanpur Siwaliks, North-West Provinces); also by *layers* from branches bent to the ground and pegged down, and, lastly, by

cuttings, though these latter are by no means easy to get to strike." Though bamboos, as a rule, do not flower until the clump is mature and, perhaps, thirty years old, and is throwing up its largest culms, the rhizome of a clump that has flowered may not die all at once, but may possibly throw up small culms, like the side branches of the large culms, which small culms also will flower before the rhizome finally expires. The present writer saw that, in the case of some of the clumps which used to ornament the town of Dehra, in the North-Western Provinces, after all the clumps in the place had flowered and seeded (in 1881, he thinks: they were then said to have been planted in 1851), and the dried culms had been cleared away, a thicket of thin shoots appeared on their sites, springing, as was then believed, from the outlying ramifications of the rhizomes, and these shoots flowered in the first or second year of their growth, and then also died. The actual source of these shoots was not searched for, and it is now thought possible that the twigs proceeded from the bases of the large culms below where they had been felled, as does occur when culms are cut out of a clump of that species which has not flowered.

On the MANAGEMENT of bamboo forest, a subject in which as a forest officer he is well versed, Mr. Gamble says it is an easy matter, if the clumps have been attended to from the beginning, that is, if dry culms have been regularly removed, if cutting at or near the ground level has alone been permitted, and if mature culms have been regularly thinned out yearly, so as to leave ample space for the development of new ones; but this state of things, he says, rarely exists in the natural forests, and especially in those in which cutting is given over to contractors, or allowed on permit. Consequently, to bring those forests into a state fit to give the best yield in material and revenue, the interference of the owner is necessary, and often some considerable capital expenditure. On this subject Mr. Gamble recommends that a paper in Vol. XVII. of the *Indian Forester* should be consulted, as applicable to most kinds, though written chiefly regarding the treatment of the common *Dendrocalamus strictus*.

The USES to which bamboos are put have been so often described that there is little, if anything, more—Mr. Gamble says—to be added. So far as possible, an account of the uses to which the different species have been put he gives under each, and he invites reference to the works of several other writers. He says, though:—

"For those who have lived for some time in India, it is difficult to imagine how the country would get on without bamboos, for from bamboos—at any rate in all but the very driest regions to
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which it would be too far to carry them profitably—are made the houses, the furniture, the carts, the fittings of boats, the fences, the domestic utensils, the weapons—in short, almost all the objects of daily use, and the necessities of daily life. Bamboos are also used as food, both by the people (grain and young shoots) and by their cattle (the leaves); as a material for making paper; as a means to procure fire; and in plantation as ornaments to the villages and gardens.”

Mr. Kurz's paper on “Bamboo and its Use,” published in January 1876, in Vol. I of the “Indian Forester,” is still, Mr. Gamble says, probably the best general treatise on the subject, and others are—the article, “Bamboo” in Dr. G. Watt's “Dictionary of the Economic Products of India”, Vol. I.; the account given in Vol. III., at p. 587, of the “Pharmacographia Indica” of Messrs. Dymock, Warden and Hooper; and a paper by Sir D. Brandis, in the “Indian Forester,” Vol. XIII, p. 107. The present writer remembers hearing read before the Edinburgh Botanical Society, about the year 1857, a very interesting paper on the subject by an officer of the Madras Medical Service, but this he cannot now find in print; and Mr. Gamble informs him that there is an old but good account of bamboos and their uses in the “Penny Cyclopædia” for 1835, written, he believes, by Dr. Lindley, the well-known botanist and horticulturalist. A comparatively recent account of Bamboos in general is to be found in the great German publication on the natural families of plants (*Die natürlichen Pflanzenfamilien*) edited by Drs. Engler and Prantl (already mentioned above), in which the grass family as a whole, in all its respects—enumerating the best known economic species and the uses which they serve, and discussing their structure and morphology, and their arrangement into tribes and genera,—has been treated of by Professor Edward Hæckel of St. Poelten, Austria, who, however, does not mention the culm-sheaths as specific characters. This treatise was translated into English by F. Lamson-Scribner, of the University of Tennessee, Knoxville, and Effie A. Southworth, in 1890, and has been published during the past year by Archibald Constable and Co., of London,—though printed in New York.

Kurz, in his forest flora of British Burma, 1877, says :—

“In tropical countries bamboo is one of the most important productions. Bamboo is the material most used in house-building, and different species are adapted differently for the several parts of which a native house consists,—strong and thick-wooded bamboo stems being used for house-posts, crossbars, &c., while thin-wooded kinds are split, and serve for floors, mats, walls, &c.—The younger stems slit into thin strips are used instead of ropes and strings.”—“For hedges and fences are chiefly thorny and shrubby bamboos in use, and the thorny ones are also generally used as defence in time of war. For scaffolding, bridges, rafts, floating timber” (floats for

timber) "&c., bamboo is invaluable."—"The native furniture, as well as other utensils, such as serve for drinking, eating, or storing small goods, as also the water-tubes in which water is fetched from the river and stored in the house, are usually made of bamboo. In many countries they serve also for axles, poles, and other parts of a native cart. For basket and fancy-work, bamboo is admirably fitted."—"The young stems, as also a few of the softer wooded kinds of bamboo, yield ample material for paper-making, and even for coarse clothing and gunny sacks. Musical instruments, too, from the harp and flute to the drum, are made of the same useful grass. The young shoots of many species are eaten cooked in curries, &c., or pickled, and form the well-known Malaya bamboo *atchar*."

But even in countries not within the tropics, bamboos are utilised to the full wherever they grow, and they are planted with an economic view. For instance, in the Dehra Dún district of the North-Western Provinces of British India, which comprises a part of the outer Himalaya mountains, as well as the sub-Himalayan valley or Dún, separated from the plains by the Siwalik range of hills, two species of *Arundinaria*, a genus of erect or climbing shrubby bamboos, namely, *A. falcata*, Nees, and *A. spathiflora*, Trin. are abundant in the Himalayas,—the first, which has culms 6—10 ft. high, ascending from 4,000 to 12,000 feet, but rarely found above 7,000, the well-known low-level *ringál*, and the second, which has culms 12—20 feet high, from 7,000 upwards—the common high level *ringál*, and their culms, besides being used for basket work, lining the roofs of houses, and floor-matting, are exported in considerable quantities to the plains, to make pipe-stems and fishing rods, and for other purposes. And at lower levels in the hills, and in the Dún and the adjoining plains, five larger species, belonging to three genera, grow in quantities, though of these perhaps only one, *viz.*, *Dendrocalamus strictus*, is indigenous, in forest regions up to about 3,000 feet in the hills. Commonly planted every where in the Dún, as in other sub-Himalayan tracts of North-Western India, is the thorny *Bambusa arundinacea*, while *Bambusa nutans*, *Dendrocalamus Hamiltonii*, and *D. Hookeri* are cultivated in the lower hills and in the plains adjoining. The culms of the large species, the four last-mentioned, are used for posts and rafters, and split up, for various purposes, including matting for floors. In the Dún, and other forest tracts, suitable grass being abundant, thatch roofs are the rule, for ordinary village houses and huts, and still are in use, though being superseded by corrugated iron roofing, for the bungalows of European residents; and the framework to which the thatch is tied is largely made of bamboo, whole, or split to the sizes required. Unfortunately, however, bamboo is a favourite food of *termites*, the so-called "white-ants."

Before going through the body of Mr. Gamble's work, and noticing points of interest regarding the various species, including anything noteworthy as to the uses to which bamboos are put, Haekel's account under this head may be condensed. The mere enumeration of the uses of the *Bambuseæ* would, he says, fill many pages. They are especially indispensable to the inhabitants of India and Eastern Asia. "Their uses are more limited in South America" (why?). In building houses the thicker trunks are used as posts and beams, and the weaker (thinner-walled) ones, when split longitudinally and pressed out flat, for filling up the walls and for laying the floors. The internodes, cut in two longitudinally, are used for tiles. In China all the theatres are built of bamboo. Huts for temporary residents are very rapidly constructed from them. Both hanging and floating bridges of bamboo are in common use, especially in the Malayan Archipelago. Here may be interpolated something about bamboo bridges derived from other sources. During the construction of the piers of the great bridge over the River Jumna, on the East Indian Railway at Allahabad, communication for the workmen and engineering staff was maintained across the river in the dry season, when the current, though very deep, was not too strong, by rafts consisting of whole bamboos, of small size (*Dendrocalamus strictus*, probably), tied together as gratings and laid over each other until sufficient power of flotation was got. The writer walked across the river—*à fleur de l'eau*—and experienced a novel sensation. In his "Forty-one Years in India," which has been pronounced to be *the* book of the season, 1896-97. Vol. II, p. 58, Lord Roberts, when writing about the Lushai Expedition, says:—

"With the help of local coolies, the little Gurkhas" (of the native regiments) "were not long in running up hospitals and store sheds; bamboos, the one material used in Lushai-land for every conceivable purpose, whether it be a house, a drinking vessel, bridge, a woman's earring, or a musical instrument, grew in profusion on the hillside. A trestle bridge was thrown across the Tipai in a few hours, and about that bridge I have rather an amusing story to relate. On my telling the young Engineer officer in charge of the Sappers' Company that a bridge was required to be constructed with the least possible delay, he replied that it should be done, but that it was necessary to calculate the force of the current, the weight to be borne, and the consequent strength of the timber required. Off he went, urged by me to be as quick as he could. Some hours elapsed and nothing was seen of the Engineer, so I went for him and asked when the bridge was to be begun. He answered that his plans were nearly completed, and that he would soon be able to commence work. In the meantime, however, and while these scientific calculations were being made, the headman of the local coolies had come to me and said if the order were given, he would throw a bridge over the river in no time. I agreed, knowing how clever natives often are at this kind

of work, and thinking I might as well have two strings to this particular bow. Immediately numbers of men were to be seen felling the bamboos on the hillside a short distance above the stream; these were thrown into the river, and as they came floating down they were caught by men standing up to their necks in water, who cut them to the required length, stuck the uprights into the river-bed, and attached them to each other by pieces laid laterally and longitudinally; the flooring was then formed also of bamboos, the whole structure was firmly bound together by strips of cane, and the bridge was pronounced ready. Having tested its strength by marching a large number of men across it, I sent for my Engineer friend. His astonishment at seeing a bridge finished ready for use was great, and became greater when he found how admirably the practical woodmen had done their work; from that time, being assured of their ability to assist him, he wisely availed himself, when difficulties arose, of their useful if unscientific method of engineering."

It is rather difficult to understand how the coolies, however local, could cut to the proper lengths and fix the uprights while standing up to their necks in water; but the story, being one of that celebrated story-teller's, "*Benvenuto*," need not be questioned.

Water conductors, continues Haekel, are constructed either by cutting the stem of a bamboo in halves longitudinally, or by breaking through the cross-walls at the nodes. Floats, capable, owing to contained air of carrying great loads, and the outriggers of boats in Ceylon, are made of bamboos. Slender culms serve for poles to support the betel-nut (says Haekel, or his translators, but they must mean the climbing pepper plant, *Chavica betel*, the leaf of which is used as a wrapper for and chewed with the slice of betel-nut, the fruit of the *Areca catechu* palm and dab of quicklime paste which is chewed as "*pán*") and other climbing cultivated plants (they are even imported into Europe for the same purpose), and the stronger ones for palisades. From many species, especially the thorny ones, impenetrable living hedges, and even works of defence, are constructed. Colonel Munro, in the introduction to his monograph, when treating of the periodicity of flowering in bamboos, says that Dr. Wallich mentions that a celebrated grove of bamboos which surrounded the city of Rampore, in Rohilkund, blossomed unusually in 1824, and every stem died, and he was informed that the same event had happened forty years previously. Mr. Gamble does not mention this hedge, but says that *Bambusa arundinacea* (which Munro seems to refer to in the passage just mentioned) makes a close, impenetrable hedge, and is said to have been largely planted around cities in both North and South India, and especially in Mysore, as a protection against attack. "Against such a hedge, nothing but explosives would have much effect." Cleghorn, quoting Buchanan's Journal iii, 261, says in respect to this:—"In Hyder Ali's time, the town of Bednore, in North-West Mysore,

was defended by a deep trench filled with clumps of this bamboo." The present writer passed through the city of Rampur, in Rohilkhand, in the year 1861, on his way to Naini Tal in the Himalaya, and he recollects that it was then surrounded by an impenetrable hedge of bamboo, which he has no doubt, from having subsequently become familiar with the species in Dehra-Dún, was *Bambusa arundinacea*. The road through the city passed by archways, or tunnels as they might be called, through the hedge, perhaps thirty feet long, and the stems on either side were so close that it seemed impossible for anything but a cat or a snake to get through, even had the species of bamboo been an unarmed one. Moreover, this bamboo, besides being spinose all over its branches and twigs, has a playful way of throwing out branches down to the ground, which develop twigs and spines, and those of each culm cross and interlock, so that it is a matter of great difficulty to cut culms out of even a detached clump that has not been regularly exploited, or kept strictly pruned to some height from the ground. And the culms spring so closely together from the rhizome that they not infrequently cannot find their way aloft without getting bent and damaged in the process. I should think fire would have more chance of making a breach in such a fortification than the explosives proposed by Mr. Gamble, if the green culms would burn, because the débris would be as impassable as the standing crop. This habit of growth greatly diminishes the value of *Bambusa arundinacea* as a crop. Not only are many culms crooked, and of irregular growth, but the cost of extracting them from the clump is very great, compared with the price they fetch. The species, however, is so graceful that it will always retain its place in cultivation. The frontispiece to the translation of Haekel's "Grasses" is a reproduction of a drawing, or painting, "after nature" by Lady Brandis, of an isolated clump of *B. arundinacea* "23 m. high, in Dehra Dún valley (North-Western Himalayas), 6,070 m. above sea level," which gives a good general idea of such a clump; but the leafless culms which overtop the others, and ought to be the newest and therefore the largest, and have not developed leaves, have nothing of the natural grace they ought to show—possibly owing to bad copying; they look more like half-destroyed culms of a clump that has seeded and died. It may be presumed that the American translators are responsible for the extraordinary altitude, attributed to the locality in the foot-note to this plate—6,070 metres = 19,915 feet. The final "o" is evidently surplus, the elevation of the Dehra Dún being from 1,000 to 3,000 feet, from the Ganges to the foot of the Himalaya, in the centre of the twin valley, or perhaps 1,400 to 3,000 feet from the Jumna to the same point.

Going back to Haekel, we find that all the furniture of the Malays, Burmese, &c., is made from bamboos. A single internode of a large species, in which both separating walls have been left, and only one bored through, serves for a water-pail, a dozen or more of which stand in every Malay house. While still full of sap, these internodes are even used as cooking utensils. Smaller internodes furnish pitchers, flasks, and cups, and wide internodes—beehives. Carrying poles, masts of small ships, walking canes, pipe-stems, purses, knife-handles, and musical instruments are mentioned as being made of bamboo.

“The ‘Anklong’ of the Malays consists of internodes of different thicknesses arranged according to their tones, and suspended near each other, and which are made to sound by striking. The living culms are made by the Malays into *Æolian* harps by piercing them at certain distances, and thus allowing the air to pass through them. The finely split bamboos open a new category of uses. The outer green rind of the young culms is split into narrow strips or ribbons, and made into baskets and fine braided work; for example, Chinese fans, large and small boxes, and even hats and jackets.”

The lacquered Burmese boxes, with pull-off covers, used for so many household purposes, have a bamboo-plaited framework. An internode, with one joint left on, makes a good travelling case for small maps, plans, and photographs, or a pen and pencil receptacle.

“If the threads are boiled in lye, and then rolled and scraped, they become soft enough for weaving and for ropes. Coarse mats laid over each other like roofing slates are a favourite roofing material in the Malayan peninsula.”

It may be added that in Lower Burma, the writer remembers owing to the risk from jungle fires, thatch-roofing was permitted within the limits of a Municipality only if it were carefully covered with “*wagat*,”—a closely-plaited matting made of the outer hard layer of bamboo culms which is very smooth and silicious, and, therefore, in some degree non-inflammable.

“Bamboos are especially important for the manufacture of Chinese paper, of which they form the chief ingredient. The well-known Chinese umbrella consists of bamboo paper with a bamboo handle and split bamboo for a skeleton. The leaves are used for packing, filling beds, &c. ‘The young shoots of the larger species are a favourite vegetable with the Malays and Chinese, and are even preserved for exportation. Those of the smaller species are eaten in China like asparagus or lettuce.’ ‘Abundant and good drinking water collects in the hollows of the internodes of many large species. In those of others are found those remarkable silicic-acid concretions, the ‘*Tabasheer*,’ that are still playing an important part in the superstitious system of medicine among the Orientals. *Tabasheer* is considered, not merely in India, but in the whole Orient and China, as a medicine of the highest value for bilious fever, dysentery, jaundice, leprosy and lung diseases, as well as an aphrodisiac. As early as the times of

the Roman Empire, physicians ascribed medicinal properties to it, and it attained its world-wide fame through the Arabian physicians of the tenth and eleventh centuries." "The origin of the Tabasheer is not yet thoroughly explained; the most probable inference is that, at the time of the most rapid growth, great quantities of water are conducted into the bamboo stems from the roots and collect in the hollow internodes. The silicic acid (alkalies?) that are dissolved in it probably become decomposed by carbonic or organic acids, the alkalies thus formed are re-absorbed together with the water, and a silicious jelly remains which hardens into Tabasheer."

Perhaps the most singular, as well as ingenious, use of bamboo the present writer has come across is for fireworks. In the Bassein district of Burma, in the west of the Irawadi delta, on the occasion of a certain festival, fireworks of various sorts are let off, some in broad daylight, such as tourbillions which bound up and revolve in the air, giving off much smoke, and rockets of various sizes which are made of bamboo internodes charged with a composition of considerable explosive power, but not made for brilliant effect. Some are made of pieces of the largest bamboos—seven or eight inches in diameter, and six or seven feet in length, and these are laid on and fastened to carriages with two pairs of wooden wheels, and have a long thin bamboo trailing behind, as the stick of the rocket, which acts both as a guide to keep it straight, and as a check on the velocity at starting. The rocket, with its carriage, is pointed in a direction, perhaps slightly uphill and over roughish ground, through the crowd of spectators, who clear out from before it, but do not leave much room; and, being set alight, it starts off along the ground, and may go a hundred yards or two with the speed of a railway train before being burned out or getting upset. A small-sized rocket, balanced on a two-wheeled carriage, will even take the air on meeting with uneven ground, or on reaching the top of a slope; and occasionally the course becomes erratic, and the rocket charges through the crowd, causing great amusement. Possibly such contrivances have been used in war in Burma.

Regarding the use of the seeds of the bamboo as food-grain, Haekel says that in the East Indies the seeds, which are rich in flour, are collected and cooked like rice, and are used for food by the poorer castes. But often, in Brazil as well as the Indies, misfortune follows the production of a large crop of mealy seeds. It is the cause of an extraordinary increase of mice and rats, which, after having eaten up all the bamboo seeds, turn to the neighbouring fields, devouring the crops of whole provinces. The German Colonies in Rio Grande do Sul and Sta. Catarina are visited by these pests at intervals of about thirteen years.

To return to Mr. Gamble's book:—the species of bamboo

found in the 1st, or North-West India region, have already been mentioned—two of them of the shrubby genus, *Arundinaria*. Two other species of that genus have been found in the North-Western Himalaya, one—*A. Falconeri* (Bth. and Hook. fil.)—only in Kumaun, being mainly a Nepalese kind, extending to Bhután, and regularly cultivated in Europe, where it flowered gregariously in the “seventies.” The other, *A. Jaunsarensis*, a new species discovered by Mr. Gamble, and found in the hills of the Jaunsar sub-division of the Dehra Dún District, in one locality only, at 7 to 8,000 feet elevation, a graceful, reed-like bamboo, is at once distinguishable by its single culms arising from a long creeping jointed rhizome, at intervals of 2 to 3 feet. *Arundinaria* contains about 47 to 50 known species, mostly Asiatic, from India, China, and Japan, but with about 5 North American, 10 South American, and 1 from South Africa. *A. Wightiana* is found only on the Hills of South India and Ceylon, most common on the Nilgiris, where it covers the upper slopes above 6,000 ft. chiefly as underwood in “sholas” of other trees. “This very pretty species flowers annually, and, being practically the only Nilgiri reed-like bamboo, is at once recognised in those hills. It is commonly used for mat-making and baskets, also for fences.” Another species very near it, *A. floribunda*, is a small erect shrubby bamboo, with culms only 2 to 5 feet high, found only in Ceylon. *A. elegans*, found in flower by Kurz in 1872, with culms 12 to 20 feet high, flattened on one side in alternate internodes, is the chief Burmese species at 5 to 7,500 elevation, extending northwards to the Nága Hills in Assam. *A. debilis*, a shrubby gregarious bamboo, which grows only in Ceylon at 6 to 8,000 feet, is used as fodder for cattle. Probably the smallest Indian species of bamboo is *A. densifolia*, a densely gregarious shrub, with culms only 6 inches to 3 feet high, a native of South India and Ceylon. The common gregarious small bamboo of the Darjeeling upper forests (British Sikkim), in universal use there as a fodder for cattle and ponies, as well as for the other usual purposes, is *A. racemosa*. *A. Griffithiana*, and *A. callosa*, from Assam and the East Himalaya, are thorny bamboos, that is, they have a ring of conical, short, thick spines round the base of the nodes. *A. intermedia*, found in the lower hills of Sikkim up to 7,000 feet, and cultivated in Calcutta, the Nilgiris, and elsewhere, has strong culms which make excellent fishing rods; and *A. Hookeriana* is a handsome, tall, tufted bamboo, which Mr. Gamble says ought to be cultivated, and should thrive in places in Europe which are sheltered from frost. *A. Prainii*, a graceful little climbing bamboo, Mr. Gamble says, he described in 1890 as a new genus, but, bowing to the authorities at Kew,

he has transferred it to *Arundinaria* ; it is found in the Naga and Jaintia Hills of Assam. The inflorescence of seven other species of *Arundinaria*, besides *A. Jaunsarensis*, is unknown, all, except the one named, being natives of the North-Eastern Himalaya, Assam, or Burma.

The genus PHYLLOSTACHYS contains five or more species, belonging to Eastern Asia, China and Japan, and two of them, *P. bambusoides* and *P. Mannii*, extend to Assam ; and another, *P. nigra*, is cultivated in Europe and the Indian hills : both of these Indian species produce excellent walking sticks.

The second sub-tribe, EUBAMBUSEÆ, comprises four genera, BAMBUSA, THYRSOSTACHYS, GIGANTOCHLOA, and OXYTENANTHERA. BAMBUSA has 24 Indian and Straits species, described by Mr. Gamble ; and, besides these, there are about 6 Chinese and Malay species which are well-known ; and there are also about 7 species from Eastern Asia and 12 from the Malay Islands which are only very imperfectly known and described. Of the 24 described, 8 belong to the Western Peninsula, 9 to the Burmese region, and 5 to Malaya and the Islands of the Bay of Bengal, while 2 (*B. vulgaris* and *B. nana*) are cultivated species frequently met with throughout the Indo-Malayan area, and one of them (*B. vulgaris*) also in America. Only one is certainly known from Australia. (It may here be mentioned that as this is not a scientific article the name of the author of a species is frequently omitted. Moreover, such names are usually quoted in a contracted form, which might only serve to confuse the lay reader). *Bambusa Tulda* is an arboreous, gregarious bamboo, with culms 20 to 70 feet high, 2 to 4 inches in diameter, cultivated all through Eastern Bengal and Burma, and is probably the most common kind in the Lower Bengal rice country and in the Assam valleys. *Tulda* is one of the Bengali names for it. It is a native of Central and Eastern Bengal, Assam and Burma, and, if Mr. Gamble is right, of the Golconda Hills of Vizagapatam and of Orissa. It has the habit of flowering gregariously over considerable areas. The culms are used for all general purposes, and they are strong, but cannot approach those of *B. Balcooa*, as Roxburgh pointed out. That botanist said that, if seasoned in water, they become more durable ; otherwise they are soon devoured by a small *Bostrichus* beetle. We recollect that in Burma bamboos were always so seasoned. *B. Balcooa*, just mentioned (*Batku bāns*, Bengali), is a tall, stout, tufted bamboo, with culms 50 to 70 feet high, and 3 to 6 inches in diameter, a native of Assam, Lower Bengal and Behar, extending to Gorakhpur in the North-Western Provinces : also cultivated at the Cape of Good Hope, and not uncommon in gardens there. It is

probably the best and strongest species for building purposes, and is greatly esteemed in Calcutta, but it is not ornamental. It is much used for scaffolding, and it is very durable if well seasoned in water. It has been rarely seen in flower. *B. nutans*, already mentioned as cultivated in the lower hills and adjoining plains of the North-Western Provinces, is, Mr. Gamble says, extremely difficult of separation from *B. Tulda* when flowers are not available, and when not seen growing. It flowers only at long intervals—fifty or sixty years; and the best distinction is that of the culms, 20 to 40 feet high, $1\frac{1}{2}$ to 3 inches diameter, which in *B. nutans* come singly from a creeping root stock, while in *B. Tulda* they are from a central tuft; but even this is not a constant character. The culms of *B. nutans* are strong, straight and good. In the Dehra-Dún, the villagers cultivate it by planting offsets, and the cut culms fetch good prices. It is a graceful species, worth growing for ornament; and, its culms being well apart it is easy to work for profit. *B. burmanica*, n. sp., Gamble, a large handsome bamboo, with culms up to 50 or 60 feet in height, and 4 inches in diameter, strong, nearly solid, is a native of the Katha district of Upper Burma. It flowered in 1890, and seeds were largely collected and distributed by Mr. J. W. Oliver, Conservator of Forests, from which many plants have been raised at Dehra Dún and elsewhere. *B. polymorpha*, Munro, is a large tufted bamboo, with culms in dense clumps, 50 to 80 feet high, 3 to 6 inches in diameter, a native of Eastern Bengal and Burma, in the latter province often associated with teak. It extends North-Westwards into the Sylhet district of Assam. It is known in Burma as *Kyathaungwa*, and is considered the best kind for the walls, floors, and roofs of houses in Lower Burma. *B. pallida* is a large, graceful bamboo, growing wild in thick clumps in the hills of Northern and Eastern Bengal, Assam, and parts of Burma, up to 5 or 6,000 feet, and cultivated in the plains below. It is much used for various purposes, *B. nana*, the "Chinese bamboo," a native of China and Japan, cultivated in India, Malaya and Ceylon, a thickly growing, ever-green tufted shrub, with culms 8 to 10 feet long, has been admitted to the Indian list by Mr. Gamble, on the authority of Roxburgh and Kurz. It makes excellent, stiff, closely-growing hedges, and is hardy. *B. vulgaris* is another species not indigenous in India, but which has been so much cultivated that it has run wild over the warmer parts of India, Burma, Malaya, and Ceylon; and any work which proposed to assist in identifying the species would, Mr. Gamble says, be incomplete without reference to it. The original country is uncertain, but it is found in Java and the Moluccas generally,

in the Mascarene Islands, the Cape, St. Helena, Algeria, the West Indian Islands, Mexico, Central and South America; and it is cultivated in most tropical gardens and in hot-houses in Europe, as at Kew and Dublin. It is a moderate-sized bamboo, with rather distant culms, which are bright green, yellow, or striped green and yellow, polished, shining, 20 to 50 feet high, 2 to 4 inches in diameter or more, walls of the internodes rather thin. *B. Kingiana* is one of Mr. Gamble's new species, from Upper Burma, found by Mr. Oliver, which Mr. Gamble has named in compliment to Dr. King, under whose auspices, and with whose assistance, his work was written. It is a large species, with culms 60 to 70 feet high, and up to 4 inches diameter. *B. lineata*, Munro, is a puzzle: Kurz, who named it *B. Rumphiana*, thought it would prove to belong to a new genus when the fruit should be found; but, pending that apparently, Mr. Gamble has retained it in *Bambusa*, and described it as *B. lineata*, because Rumphius had long ago named it *Leleba* (a Malay name) *lineata*, and Munro had published it as *B. lineata* in the same year (1866) in which Kurz gave it the name of *B. Rumphiana*. It is a thickly-growing, reed-like, large-leaved shrub, with short culms, native of the Malaya Archipelago and the Moluccas, and extending northwards to the Andaman Islands, where it was gathered in Rutland Island by Dr. Prain. It grows in marshy coast forests. *B. schizostachyoides*, Kurz M.S., is one of the few bamboos known to grow in the Andaman Islands, and it grows only there in the tropical forests. The genus of this species remained for some time in doubt, Munro having thought it ought to be put in *Melocanna*. *B. Wrayi*, described by Dr. Otto Stapf, in the Kew Bulletin, 1893, was found in the Malaya Peninsula, in Perak, by L. Wray, Jun.; it is a graceful semi-scandent bamboo, with culms 40 to 60 feet high, but only about 1 inch diameter, very thin, the top curving round almost to the ground, with internodes over 7 feet in length. Its inflorescence is more like that of two other genera than of *Bambusa*, and Mr. Gamble thinks that when the fruit is obtained this remarkable species may be found to belong not to *Bambusa*, and possibly be of a new genus. It has probably the narrowest culm for its length of almost any bamboo known except *Arundinaria Prainii*. In sending to Kew, Mr. Wray wrote:—

“The plant grows at from 4,500 feet to nearly 6,000 feet elevation, generally on the ridges of the hills. The canes are about 1 inch in diameter near the ground, and taper away to $\frac{1}{16}$ inch. These long thin ends droop down till they touch the ground. The canes are from 40 to 60 feet long. They are furnished with whorls of leaves at the upper joints, and, as can be imagined, the bamboo is one of the most elegant of its kind The joints are over 7 feet in

length. The longest joint of a cane is generally the third or fourth from the ground. The Semangs use the large size canes for the outer case of their blow-pipes, and the small ones for the inner tube This appears to grow only in two places in Perak."

Bambusa Blumeana, from Malay and the Moluccas, is a tall thorny bamboo, with many branches, abundantly armed with short recurved spines in threes, the middle one longest: it is easily distinguished from the common thorny bamboo by the parts of the flowers, and the culm-sheaths. *B. arundinacea* has already been mentioned as a troublesome customer owing to its defensive armature, though commonly cultivated, for its beauty chiefly nowadays; but it deserves further mention in this place. The culms in large specimens reach 80 to 100 feet in height and 6 to 7 inches in diameter, bearing branches from the base, the lower joints giving out long horizontal shoots, armed at the nodes with 2 to 3 recurved spines and with few leaves; walls of the internodes in smaller culms thick, 1 to 2 inches, cavity small. Owing probably to the fact that in some situations it throws up large culms, and in others but small ones, this species has had various names given to it. Mr. Gamble says:—

"It will be seen that I have included in this species all the three described by Nees and Roxburgh, and acknowledged by Ruprecht, Munro and Beddome, *B. arundinacea*, *B. spinosa*, and *B. orientalis*; also the *B. arundo* admitted by Ruprecht. I have examined a great many specimens, and can find no real specific difference between them."

He describes *B. orientalis* as a variety, owing to certain differences in the inflorescence; but, nevertheless, he feels that, without better information, he is right in thinking that, in *India proper*, there is only one thorny *Bambusa*, the amount of variation it shows being fully accounted for by the variations of climate and soil. Both Brandis and Kurz considered that there was only one species: Kurz considered that the culm-sheath was all important, and Mr. Gamble says these three plants have practically the same. Nevertheless, he says it is easy to distinguish two very different varieties in habit, namely:—

"(1) The tall handsome large-culmed variety of the valleys of the Circars, and the hills of South India, and so often cultivated elsewhere: and (2) the almost dwarf, thick-branched, very thorny small-culmed variety which grows gregariously on the low hills and "laterite" downs of Orissa and Ganjam, and extends into Lower Bengal and across to Burma" (the present writer thinks he has met it, and been defeated by it, on the Ghâts through which the East India Railway runs between Allahabad and Jabalpur, and also close to Rangoon, where it flowered in 1865-66). "This latter is gregarious in densely thorny clumps of some 20 feet in height, and is probably the one which Roxburgh meant as *Bambusa spinosa*. But I doubt if it can be described as a variety by any definite characters."

Before leaving *Bambusa arundinacea*, and its fellow species, of which Mr. Gamble describes four the flowers of which are not yet known, the following quotation regarding its importance as a food-grain producer may be given from Colonel Munro's monograph. The specific name of the plant he refers to is not mentioned, but, from the dates and countries where Mr. Gamble says it has been known to flower, this evidently is the species :—

“ How important an event the general flowering of the bamboos is, may be learnt from the perusal of the astonishing but authentic accounts contained in the Journal above referred to ” (Journal of the Agricultural and Horticultural Society of India). “ Among these facts, it is related that in 1812, in Orissa, a general flowering of the bamboo took place, and prevented a famine. The seed gave sustenance to thousands, and very many subsisted entirely on it. Hundreds of people were on the watch day and night to secure the seeds as they fell from the branches. Mr. Shaw Stewart, the Collector of Canara, on the west coast of India, states that in 1864 there was a general flowering of the bamboo in the Soopa jungles, and that a very large number of persons, estimated at 50,000, came from the Dharwar and Belgaum districts to collect the seed. Each party remained about ten or fourteen days, taking away enough for their own consumption during the monsoon months, as well as some for sale; and he adds that the flowering was a most providential benefit during the prevalent scarcity. Mr. Gray, writing from Maldah in 1866, says, ‘ In the south district, throughout the whole tract of country, the bamboo has flowered, and the seed has been sold in the bazar at thirteen seers (twenty-six pounds) for three rupees, rice being ten seers, the ryots having stored enough for their own wants in addition. Hundreds of maunds (the maund being 100 pounds) have been sold in the English bazar at Maldah; and large quantities have been sent to Sultangunge and other places twenty-five to thirty miles distant, showing how enormous the supply must have been.’ Mr. Gray adds : ‘ The bamboo harvest has been quite providential, as the ryots were on the point of starving.’ ”

Mr. Gamble says the seeds somewhat resemble wheat seeds.

Passing over several genera, a few particulars must be given regarding *Dendrocalamus*. Sixteen species are, so far, known, fifteen of which are British Indian, and one is found in China and Formosa. Of the Indian species one (*D. strictus*) is the most widespread and common of all Indian bamboos; the rest are confined to the North-East Himalaya, the Indo-Burmese, and the Burma-Malay regions. *D. giganteus* is the largest of the Indian bamboos. The first on the list is *D. strictus*, which has been several times mentioned already. It is a deciduous densely tufted bamboo, with strong culms which are solid, or have only a small cavity, and variable in size according to climate, 20 to 50 feet high, 1 to 3 inches in diameter. It is found on dry hills throughout India and Burma. To the north it is found in the Punjab Salt Range, and it extends down along the base of the Himalaya and in the Siwalik Range to Nepál, but does not occur in Sikkim, or in the

Assam valley. It is common throughout the hills of the Eastern and Western Ghâts, and of Central and South India, ascending to 3,000 feet, and is found in the Eng and drier upper mixed forests throughout Burma, but is absent from Ceylon. In the valleys of Burma and South India, it reaches a large size, with hollow culms, longer leaves and culm sheaths; but in the dry Deccan hills and in the Siwálik, it is small and has nearly solid culms, small leaves and sheaths. In this state it is commonly known as the 'male bamboo.' It furnishes, when solid culms are procurable, the best material for lance shafts, and we believe this is the species from which is obtained the *lathi*, the long, stout, but yet light walking-sticks used by the natives of India. When these are armed with iron rings along the lower foot or so, they become lethal weapons, and are the arms of watchmen, and of the gangs of hired ruffians called '*latials*.' The present writer found them very good handles for *dúrmats*, or road rammers, and believes they are sold after being seasoned and hardened by fire or smoke, which gives them a rich dark brown colour. This species flowers gregariously over large areas; but it may be found flowering sporadically, a few clumps at a time, almost every year, in any locality; and such clumps then usually die off. A gregarious flowering produces the best seed. It is very easily grown, either from seed, or from root offsets, and rhizomes take five years to form clumps in favourable localities. On its growth and cultivation, says Mr. Gamble, Colonel Doveton's excellent paper in the "Indian Forester," Vol. IX., p. 529, may be consulted; and from that paper, he quotes as follows:—

"This bamboo is used for rafters and battens, spear and lance-shafts, walking sticks, whip-handles, stakes to support sugar cane, for the manufacture of small mats used like slates in roofing, mats for floors, covers of carts, sieves, hand-punkas, umbrellas, light chairs and sofas, vessels for holding grease and oil, bows and arrows, cordage, and for the manufacture of many other minor articles. It is also used for the buoyage of heavy timbers in rafting, and, when converted into charcoal, is in request for the finer smiths' work. Dry stems are also used for torches, and the production of fire by friction. The leaves are much sought after as food for buffaloes, and are fairly good fodder for horses. The seed is used in times of famine as food-grain, and while wheat sold at 12 seers (24 lbs.) for the rupee, bamboo seed sold at from 40 to 50 seers. It will probably come into use for the consolidation and support of embankments."

D. sericeus is near the last-named species, and is probably only a variety of it; but it has a distinct appearance in flower, owing to the spreading silky pubescence on the spikelets; and it grows only on the summit of Parasnath Mountain, in Chutia Nagpur, Bengal. *D. sikkimensis*, Gamble, is a large bamboo, with few culms in a tuft, 50 to 60 feet high, 5 to 7 inches in diameter. It is found in the North-East Himalaya, in Sikkim,

and Bhutan, at 4 to 6,000 feet ; and on Tura Peak, Garo Hills, Assam, at 3,500 feet. It is cultivated in the Botanic Gardens of Calcutta, Ceylon, and the Nilgiris ; also in the Royal Gardens, Kew ; and at Castlewellan, in Ireland, and other places in Europe. It is the largest species in Sikkim, and is the kind preferred by the Lepchas and Bhutias for making the ' chungas ' for carrying water and milk, and for churning butter in. The leaves are said to be poisonous to cattle and horses.

D. Hookeri, Munro, is a large tufted bamboo, with culms 50 to 60 feet high, 4 to 6 in. diam., walls about 1 in. thick. It is a native of the Khasia and Jaintia and Daphla Hills in Assam, at 2—5,000 feet altitude, extending to the Bhamo district in Upper Burma. It is the large species of the Dikrung Valley, Daphla Hills, and is used for ' chungas ' or water buckets.

D. Hamiltonii is a large bamboo, with culms in a tuft, sometimes growing tall and erect, but more often sending out its stems at an angle, or curved downwards—culms large, 40 to 60 or even 80 feet high, 4 to 7 inches diameter. It has already been mentioned as a native of the North-East Himalaya, Assam valleys and hills, extending eastwards to Upper Burma, and westwards to the Sutlej River, though doubtfully indigenous beyond Nepal. It is much used, but its comparative softness and thin walls make it inferior to such species as *Bambusa Tulda*, and *B. Balcooa*. It is largely grown in the Dehra Dún, where it may be seen as one of the species along the road to Mussooree, through the Viceroy's Body Guard lines. The young shoots are eaten as a vegetable. It flowers usually sporadically, but sometimes gregariously, as it was doing, when Mr. Gamble wrote of it in 1894, both in Sikkim and in Dehra Dún. Of its straggling habit, so noticeable in the forests of Bengal and Burma, but curiously much less so in the Dehra Dún, Mr. J. W. Oliver remarks—"When they have no trees to support them, the main stems bend over, forming impenetrable thickets, and the lateral branches ascend vertically, often forming shoots as long as the main stems." *D. giganteus*, already several times mentioned is probably, says Mr. Gamble, the giant of the bamboo tribe, with culms in a tuft, 80 to 100 ft. long, 8 to 10 inches in diameter, with thin walls ; internodes rather short, 15-16 inches ; *culm sheaths* very long, the lower part about 20 inches long by 20 broad at base. It is a native of the Malay Peninsula and Penang, and northwards perhaps to Tenasserim, and is much cultivated in Burma, and in Botanic Gardens. Good pictures of a magnificent specimen in the Royal Botanic Gardens at Peradeniya in Ceylon, with its young shoots, appeared in the *Gardeners' Chronicle* for 10th September, 1892 : these are from photographs, one—of the whole clump from some distance off, showing a dense mass of culms in

close contact with each other, which is described as being 100 feet in height and 98 feet in circumference at 3 feet from the ground. The other picture is a near view of some of the culms rising from the ground, each said to be from 26 to 29 inches in circumference. The young shoots are said to have the appearance of Brobdignagian asparagus. Often confused with *D. giganteus* is *D. Brandisii*, Kurz., a "splendid bamboo" with culms 60 to 120 feet high, 5 to 8 inches diameter, and walls thick. It inhabits the tropical forests of the Eastern slopes of the Pegu Yoma (backbone) and of the Martaban Hills up to 4,000 ft., extending northwards to the Ruby Mines district, chiefly on calcareous rocks. *D. flagellifer*, Munro, Mr. Gamble thinks may prove to be the same as *D. Brandisii*, when it is better known. It is a native of the Malay Peninsula, extending northwards to Tenasserim, where Beddome collected it at 2,000 ft. elevation in 1879. Mr. Gamble describes, so far as possible, two or three "imperfectly known species" of *Dendrocalamus*, one of which is *D. Parishii*, collected once, in the Punjab Himalaya, by Lieutenant Parish, but not again. Its culms, culm-sheaths, and leaves are unknown, as is the exact locality where it grows. Mr. Gamble says it would be an excellent thing to obtain more specimens of this, and to ascertain its true position in the genus; but he thinks it has been a planted specimen of *D. Hookeri*. Another species, known only from the flowers, which were collected by Abdul Huk for the Calcutta Botanic Garden in 1892, is *D. Collettianus*. Mr. Gamble has named it after General Sir Henry Collett, K. C. B., who has done so much to make known the flora of Upper Burma.

We must hurry through the remaining 39 pages of Mr. Gamble's book. The genus MELOCALAMUS comprises but one species, *M. compactiflorus*, which is a tufted arborescent bamboo, with scandent culms—15 to 25 and even 100 feet in length, and then climbing over tall trees, $\frac{1}{2}$ to 1 inch in diameter. MELOCALAMUS has a large subglobular *caryopsis* (fruit) 1 to $1\frac{1}{2}$ inches in diameter, containing a large fleshy seed. It is a native of Eastern Bengal and Burma, in the hills. PSEUDOSTACHYUM, Munro, also is a genus of but one species, *P. polymorphum*, which is a large shrubby or semi-arborescent bamboo, with culms arising from a long, creeping, jointed rhizome, a species of the Eastern Himalaya, Assam, and Burma, and remarkable for most frequently having diseased inflorescence. It is a valuable kind, for in Sikkim it is considered the best sort for making the basket-work used by the natives, and on the tea estates, as the culms are easily split, and the laths are flexible and durable. Mr. W. T. McHarg, Deputy Conservator of Forests, who found it in the Bhamo District of Upper Burma, says:—"It is principally used by the Kachin wizards or vok. cv.]

propheying priests, who roast the stem, and then prophesy according to the way the bamboo cracks or splits up." *TEINOSTACHYUM*, Munro, contains five species, shrubby or arborescent and some scandent, three species being found in the Assam-Burma region, one from the Western Ghats of the Peninsula, and one from Assam; their interesting characters and their uses we must skip for want of space. The positions of some of them in the genus, or even in the sub-tribe, seem rather doubtful. *CEPHALOSTACHYUM*, Munro, contains seven species, all from the North-East Himalaya, Assam, and Burma, one only (*C. pergracile*) crossing the Bay of Bengal and re-appearing in Chutia Nagpur. They are shrubby or arborescent bamboos, some semi-scandent. *C. pergracile*, Munro, is an arboreous, tufted bamboo, with culms thirty to forty feet high, two to three inches diameter, walls very thin. This species is found throughout Burma, where it is common in upper mixed forests, and often forms forests by itself. Mr. Mann says it is indigenous on the lower Naga Hills of Assam, and Mr. Gamble found it in the Singhbhum district of Bengal. It is probably the most common of all Burmese bamboos except *Dendrocalamus strictus*. The culms are largely used for building and mat-making and other purposes, and in Burma the joints are used for boiling *Kauknyin*, or glutinous rice, the effect being to make a long mould of boiled rice which can be carried about to be eaten on journeys.

The sub-tribe—*MELOCANNEÆ*, contains four genera. Of these, *DINOCHLOA* has two species, both Indo-Malayan, scandent, up to 100 feet in length. A variety of *D. Tjankorreh*, found in the Andamans, on the coasts, has the smallest flowers of any Indian species yet known. Kurz, in his 'Report on the Vegetation of the Andaman Islands,' says it forms nearly half of the scandent vegetation in the coast jungles, rendering many places nearly impenetrable.

The genus *SCHIZOSTACHYUM* has about sixteen species, of which five are Indo-Malayan: not much seems to be known of them. *MELOCANNA* contains one well-known species and another imperfectly identified. *M. bambusoides* grows to a good size, throughout Eastern Bengal, Assam, and Burma, from the Garo and Khasia Hills to Chittagong and Arracan, and again in Tenasserim. In parts of the above region, and certainly in Chittagong, this—says Mr. Gamble—

"is the most common species, and the one most universally employed for building purposes. Owing to its habit of sending out long underground rhizomes which give out culms at intervals, it spreads very rapidly, and is extremely difficult to get rid of for cultivation."—"This interesting and handsome species is one of the most valuable and important of the Indian bamboos. From

the Chittagong forests large numbers are yearly exported to Lower Bengal, and, according to the forest returns, about 16 millions are thus yearly required for building purposes in the Gangetic Delta. Although thin-walled, it is strong and durable, and it has the advantage of being straight and having only very slight knots." "Major Lewin says the culm is of the best description, and that white ants do not touch it."

The caryopsis of *MELOCANNA* is very large, pear-shaped, pericarp very thick. That of the species we have just written of is often 3 to 5 inches long, and 2 to 3 inches broad (large for the fruit of a grass!). The fruits occasionally germinate on the culm, sometimes, Kurz said, making 6 inches growth before they drop; and Mr. Gamble says that some sent to Dehra Dun in 1892, by post, germinated in transit, and the plants were growing well in 1894 when he wrote.* Three other species which have been described as *Melocanna* have been relegated to other genera. *OCHLANDRA* comprises seven species of shrubby, gregarious, reed-like bamboos, six of which belong to South India and Ceylon, and one to the Malay Peninsula; caryopsis large or very large. *O. stridula*, Thwaites, is a shrub belonging to Ceylon, very common in the low country in the south of the island, covering hundreds of square miles. It is said to flower annually and regularly.

* The following are among the bamboos cultivated in the Garden of the Imperial Forest School at Dehra Dun:—

<i>Arundinaria falcata</i> , Nees	...	N.-W. Himalaya.
" <i>suberecta</i> , Munro	...	Sikkim.
" <i>Hindsii</i> , Munro	...	China.
" <i>Fortunei</i> , "	...	"
<i>Phyllostachys Mannii</i> , Gamble	...	Assam.
" <i>nigra</i> , Munro	...	Japan.
" <i>ruscifolia</i> , Mitford	...	"
<i>Bambusa Tulda</i> , Munro	...	N. India.
" <i>nutans</i> , Wall.	...	"
" <i>burmanica</i> , Gamble	...	Burma.
" <i>nana</i> , Roxb.	...	China.
" <i>Balcooa</i> , Roxb.	...	N. India.
" <i>vulgaris</i> , Schr.	...	China.
" <i>arundinacea</i> , Willd.	...	India.
" <i>Oliveriana</i> , Gamble.	...	Burma.
<i>Thyllostachys Oliveri</i> , Gamble	...	Burma.
" <i>siamensis</i> , Gamble	...	"
<i>Dendrocalamus strictus</i> , Nees	...	India
" <i>membranaeus</i> , Munro	...	Burma.
" <i>sikkimensis</i> , Gamble	...	Sikkim.
" <i>Hamiltonii</i> , Nees & Arn.	...	N. India.
" <i>patellaris</i> , Gamble	...	Sikkim.
" <i>giganteus</i> , Munro	...	Burma.
" <i>Brandisii</i> , Kurz	...	"
<i>Melocalamus compactiflorus</i> , Bth. H. f.	...	"
<i>Cephalostachyum pergracile</i> , Munro	...	"
<i>Melocanna bambusoides</i> , Trin.	...	E. Bengal.

besides a few others from Japan, of which the specific names are not quite certain, and some have yet too young for identification.

Of *O. Beddomei*, n. sp., Gamble, collected by Colonel R. H. Beddome in Wynaad, neither the culms, culm-sheaths, nor caryopsis are known, but the flowers are sufficient for a description. *O. Travancorica*, Benthams, an erect shrubby, arborescent, reed-like gregarious bamboo, is said to be a magnificent and most interesting species, of which its discoverer, Colonel Beddome, late Conservator of Forests in Madras, says :—

“ It covers many miles of the mountains, often to the entire exclusion of all other vegetation ; in open mountain tracts it generally grows to 8 to 10 feet in height, but most close and impenetrable, elephants even not attempting to get through it ; inside sholas, and on their outskirts, it grows to 15 feet high, and is much more straggling. It is called *Iruil* by the natives, and by Europeans the elephant grass.”

Mr. F. W. Bourdillon, Conservator of Forests in the Travancore State, says “ the culms attain a height of 20 feet in favourable circumstances, with a circumference of 7 inches. The internodes are sometimes 5 feet long. It flowers almost every seven years, and dies down. It makes a splendid paper, and we have a paper mill which uses it almost exclusively. The fibre has been pronounced superior to ‘Esparto.’ Our only difficulty in connection with it is the great cost of the chemicals required.” From some characters of the flowers, Beddome expresses a doubt whether it should not form a new genus ; but Mr. Gamble follows the authors of the “ *Genera Plantarum*,” Benthams and Hooker, in keeping it in *Ochlandra*. He says it is a very remarkable bamboo in respect of its long culm-internodes and large flowers and fruit. Mr. Gamble has counted up to 120 stamens in one spikelet ; and the caryopsis is two inches long, by 5 to 6 inches broad, and surmounted by a conical, stiff, 2 in. long, beak.

In an appendix Mr. Gamble gives descriptions of four additional species lately found in his region : two are in *Arundinaria*, namely, *A. Pantlingi*, n. sp. Gamble, from British Bhutan, at 11,000 feet, and *A. armata*, n. sp. Gamble. Mr. Pantling sent his collectors to look for a bamboo which had been mentioned by Lieutenant-Colonel Godwin-Austen as possessing thorns at the nodes of the culms, and besides it, which proved to be *A. Griffithiana*, Munro, they found flowering specimens of *A. aristata*, Gamble, and the new species *A. Pantlingi*, which has no thorns. *A. armata*, n. sp. Gamble, is an ever-green shrubby bamboo, with single stems arising at intervals from a creeping rhizome. This is from Bernardmyo, in the Hills of Upper Burma, at 5,500 feet elevation. *Bambusa Oliveriana* n. sp. Gamble, is a moderate-sized tufted bamboo, with culms 40-45 feet long, 1-2 inch diameter, also from Upper Burma, near Mandalay, at from 1-2000 feet ; also sent by Mr. C. S. Rogers from the Ruby Mine Hills. It was flowering generally when Mr. Oliver found it near Mandalay in 1893-94, and as

large quantities of seed were collected and distributed, the species is likely soon to be well-known. The fourth additional species described in the appendix is a *Dendrocalamus*—*D. latiflorus* of Munro. It is said to be a very large bamboo, with culms 5 inches in diameter, cavity large, and is from the Southern Shan States, Upper Burma, collected by Dr. King's collectors.

Nothing can better show what the value of Mr. Gamble's work is, and the estimation in which it is held by botanists, than the following extract from Part XXII, published in the end of 1896, of "The Flora of British India," by Sir J. D. Hooker, K.C.S.I., &c., &c :—

"The following account of the *Indian Bambuseæ* is drawn up, almost verbatim, from Mr. Gamble's 'Bamboos of British India,' which forms part of Vol. vii of Dr. King's 'Annals of the Royal Botanic Gardens of Calcutta,' and of which Dr. King favoured me with a copy in advance, together with his and Mr. Gamble's permission to reproduce its contents in a form suited to the 'Flora of British India.' In doing this I have been obliged to curtail the descriptions. And in order to preserve the arrangement of matter adopted in this work, I have had to substitute for the keys to the species employed by Mr. Gamble specific characters selected according to my own judgment from his detailed descriptions, and in a few cases to substitute synonymous technical terms for those he has used. I have added nothing ; for it is obvious that a botanist of Mr. Gamble's ability and wide experience of so many of the Indian bamboos in their native forests, having access also to the unrivalled collections in the Herbarium of the Calcutta Gardens, should have exhausted the subject so far as the materials were available. It must not be supposed that this work supersedes his 'Bamboos of British India,' which is indispensable to the student of the tribe, by reason of its fuller descriptions and admirable plates and analyses. My cordial thanks are directly due to Dr. King and Mr. Gamble for this generous contribution to the 'Flora of British India,' and indirectly for the authentically-named collection of specimens corresponding to Mr. Gamble's descriptions which has been presented by the Government of India to the Herbarium of the Royal Gardens, Kew."

Sir Joseph Hooker goes on to say that, since the paragraph just above quoted was written, Mr. Freeman Mitford's "The Bamboo Garden" has appeared, a work replete with valuable observations upon the habit, mode of growth, and other characters of the hardy species of bamboo (including five Indian) cultivated by him. In it are pointed out, says Sir Joseph, for the first time, the true characters of the two types of sheath and blade that occur in the tribe *bambuseæ*, and which do not obtain, so far as he knows, in any other tribe of grasses ; and he quotes at length some of Mr. Mitford's views on this subject, which, however, it would be foreign to the object of the present article further to allude to.

(To be continued.)

C. W. HOPE.

ART. VI.—BYRON AND WATERLOO.

BYRON'S very peculiar mental habits are not displayed more clearly in any of his writings than in the episodic passage on the fall of Napoleon in the third canto of *Childe Harold*.

The pilgrim had been brought back upon the scene as one who would have been happier if he could have confined his spirit to the contemplation of the stars ; but he found himself recalled to the habitations of men, which wore and wearied him, and then—like a baffled eagle—he sought another upward flight. He is next compared to seamen on a doomed vessel who intoxicated themselves as the ship foundered ; and then, without transition, the reader is apostrophised as standing on the grave of myriads lately slain in battle. This awkward exordium is followed by some fourteen stanzas which have been not undeservedly more praised and quoted than any other portion of the poem, but which by no means deserve the same commendation as a record of anything which really occurred. The canto having been finished exactly a year after the event, one can account for all this only by observing carefully the circumstances in which the passage was composed ; and this can be done only if we can get at the facts of Byron's visit to the field some nine months after the traces of actual conflict had been cleared away and the dead had been buried.

What the actual state of the ground then was, we may learn from the letters of Mrs. Eaton, who saw it at the time and wrote a short narrative which was published anonymously by Murray and went through ten editions. This simple narrative has been republished, in later days, in a little book called "Waterloo Days," brought out by Messrs. George Bell & Sons, London, 1888.* It gives details in a sensible and convincing manner, but throws on the subject of contemporaneous testimony a ray of light that is almost bewildering. A week after the close of the campaign the lady estimates the numbers of Bonaparte's army at Waterloo to have been nearly double of their actual sum ; and confounds the attack of one o'clock on the British left with the advance of the Old Guard on the centre at the end of the day. But what she actually saw, Mrs. Eaton describes in a more satisfactory manner. "I stood alone," she concludes, "upon the spot so lately bathed

* The first draft appeared in August, 1815, as an explanation of a picture exhibited for the benefit of the Waterloo Fund by the author's sister.

in human blood I cast my eyes upon the ruined hovels immortalised by the achievements of my gallant countrymen Silence reigned over the field, scattered relics covered the sunburnt ground, the gates of heaven were tainted with the effluvia of death."

Byron went there a little later ; but the brief record of his visit is interesting for the light thrown on his habits of composition and thought.

Byron, it appears, landed at Ostend on 26th April, bringing with him a carriage modelled on that of the fallen Emperor, Napoleon, and arranged to contain a bed, a travelling library and a small service of plate for the table. In this encyclopedic vehicle he drove on to Brussels ; and, on the morning following his arrival, went in a lighter conveyance through the forest of Soignes, accompanied by the writer of the article and by Dr. Polidori, his physician. On reaching the field, he became absorbed and silent, visiting the monument of Colonel Gordon, the spot where his cousin, Major Howard, fell, and the Château of "Hougoumont," or Goumont.

Almost the only remark recorded to have been made by the poet on that occasion contains an error ; for he seems to have said that Howard fell at the same time as Picton, whereas General Sir T. Picton was killed in repelling the advance of the French infantry under Erlon between 1 and 2 P.M., and Howard (Major the Hon. F.) was shot in the pursuit of the French by Vivian's cavalry between 8 and 9, when the fight was over.

In the evening the poet visited the writer of the account * in his lodgings at Brussels, and was asked to write something in the album of his hostess, which already contained a contribution by Sir Walter Scott. To this the most ready and gracious assent was given ; and Byron took charge of the volume, promising to return it on the following day. Being in so amiable a mood, he was next asked what he thought of Scott's poem on the battle : to which he replied by quoting from that now somewhat depreciated production :—

"Yes! Agincourt may be forgot
And Cressy be an unknown spot,
And Blenheim's name be new,
But still in story and in song
For many an age remembered long
Shall live the Towers of Hougoumont
And Field of Waterloo."

As he uttered the last words, Byron struck the book and cried : "Devil take it, my dear Scott, if that glory ever dies !"

* V. Anonymous article in *New Monthly Magazine* for 1829, then edited by Thomas Campbell.

Next day the lady received her album enriched by lines, afterwards embodied in *Childe Harold* (Canto III., St. XVII, XVIII) beginning :—

“ Stop ! For thy tread is on an Empire’s dust.”

Most critics would now say that these lines, even if they stood alone, are worth more than the whole facile jingle of the author of *Marmion*. Yet it may be that the *character* of the two poets is betrayed in an inverse ratio to their artistic merit. Scott’s poem will bear resuscitation for its sincerity and manly ring. Byron’s more famous stanzas are in some measure a register of his inferior earnestness and accuracy. The twenty-first stanza refers, in stilted and high-flown phrase, to the ball in “that high hall” which was, according to Sir William Fraser’s account, only the very commonplace show-room of a coach-builder. It then proceeds to describe the march to Quatre Bras, in a passage that has been doubtless justly praised by great critics (including Scott himself). All of a sudden, without any note of transition, come the lines on Howard, and we find ourselves on the field of “Waterloo,” or rather of Mont St. Jean.

It is difficult, on ordinary principles, to account for such confusion ; but, perhaps, the narrative that we have been examining may give us a clue. It seems possible that Byron, in his silent absorption on the battle-field, did not give his attention to what he was there told ; and that he took up the notion—so generally adopted since—that it was the battle at Mont St. Jean, and final overthrow of Napoleon, to which the Duchess of Richmond’s guests marched out. In that case the engagement of the 16th between Ney and the British advanced guard must have been forgotten or tacitly ignored.

The writer of the paper in the *New Monthly* adds a curious, though prosaic, detail which may be deemed worthy of preservation. The encyclopedic carriage proving insufficient, Byron had purchased a *calèche* for the use of his followers. When the vehicle was brought for inspection by the Brussels coach-builder, it was found fault with after having, in fact, been used for the Waterloo excursion as a trial trip ; and it had to be returned. The manufacturer was indignant, and the leading Brussels journal of the day, *L’Oracle*, is said to have stated that “the noble lord had decamped owing 1,800 francs for a carriage.” The case was ultimately compromised, but not before it had caused the enemy to blaspheme in England, where Byron’s unpopularity was just then at its highest. We know the pungent words of Macaulay :—

“His countrymen were in a bad humour with him. His writings and his character had lost the charm of novelty. He had been guilty of the offence which of all offences is punished

the most severely: he had been over-praised: and the public, with its usual justice, chastised him for its own folly."

Any stick would do to beat such a sad dog with; and the *Courier*, a Tory paper of the day, published the story in London, with additions and comments of its own. It may be well to add that an examination of the Brussels papers of the day supplies no further information on any of the questions raised here. Byron's passage through Brussels appears to have attracted no attention; and there is no record forthcoming of the residence of the Duke and Duchess of Richmond there.

The house occupied by these last appears to have stood between the Rue de la Blanchisserie and the city walls—now *Boulevard du Jardin-botanique*; and the site is now filled by a nunnery, while the subsequently constructed Rue des Cendres runs through what was then the garden. The debate between the two parties, one represented by Sir W. Fraser, the other by the latest surviving members of the Duke of Richmond's family, is as to the exact spot where the famous ball took place; Sir William contending—against Lady de Ros and Lady Louisa Tighe—that the actual dancing was in a wooden *annexe*, or supplemental building, still standing between the house and the street, which was converted into a temporary ball-room. But Lady Louisa's letter, reproduced by her niece in the *Belgian News* of July 6th, 1895, positively traverses this conjecture: "The ball was given in my father's house, and in the room which we children used as our school-room. . . . I was allowed to sit up and see the ball. . . . The room was a long one, with several windows looking towards the stables: it was on the ground-floor. *In the garden was a house which seemed to be a store for carriages*; it was some way from the house and *not used by our family*." That carriage store is still put to the same use, but is now separated from the convent grounds by a high wall. This is the place confidently assigned by Sir W. Fraser; and the controversy must be settled by the reader on his own view of the evidence. The coach-magazine is large enough for a dance of perhaps 200 persons; what larger room there may be concealed in the recesses of the convent, is unknown.

But, wherever the ball took place, it was not disturbed by any distant firing; and the officers who left it did not go out then and there to fight on Mont St. Jean. Exact accuracy on such points was no part of Byron's impressionist manner; nor is there anything to show that the stanzas in question were originally meant to form part of the third canto of *Childe Harold*. Although written in the same style of metre as that poem, they were evidently no more than an improvisation to please a friend, inspired by a hasty visit to the field.

Byron had always shown for Napoleon both interest and admiration. When he heard of the abdication of 1814, he at once predicted that the Powers would find that he would "play them a pass yet." Nor was the excitement confined to men of his calibre, or of his time. Quite lately, Lords Wolseley and Roberts have written on the campaign of 1815, and two American writers have produced impartial studies of the same topic.*

With regard to the final sequestration of this grand disturber, there is a curious passage in Capefigue's *Cent Jours*, II, 119:—

"Restait enfin à fixer le lieu de sa captivité ; car il ne serait plus désormais que prisonnier d'Etat, et l'île Ste. Helène depuis longtemps indiquée, fut désignée dans les conférences du mois de mai (C'est un point à noter, ce ne fut pas la résolution inopinée et personnelle de l'Angleterre qui donna pour exiler au Général Bonaparte l'île Ste. Helène ; cette résolution fut prise et formulée par un acte secret du congrès au mois de mai.)"

Thus, then, we are informed that before the campaign began, in the capital of his father-in-law and former ally, where he had once been master, and where his wife and son were even then residing, it was resolved that, if the former lord of Europe should not be knocked on the head in the coming struggle, he should be subjected to the system of State prisons established by himself in a decree of 1810. The dramatic pathos of Napoleon's situation, after his return from Elba, deepens with such thoughts as this ; and he stands out more and more titanic, the haunting spirit of our expiring age. On the other hand, the objection that he brought it on himself is partly met by the commonly heard assertion that his return from Elba was caused by information that his deportation to St. Helena was being discussed at the Congress of Vienna. It must, however, be admitted that there is yet another version of the story, namely, that Lord Castlereagh had planned the St. Helena internment as far back as the first abdication, and that for this reason the British Government had withheld its assent to the Treaty of Fontainebleau.

But, supposing it all true, it does but accentuate the great truth that Talleyrand expressed when he said that there was "some one who was cleverer than Voltaire." Napoleon had done much for France ; but he had done it without conscience, aggrandising his adopted country in a spirit of extended and glorified egotism. This, and a deep-seated cynicism of character, made him at last the antagonist of Occidental Christen-

* Mr. Cotman Ropes, and Prof. Sloane.

dom ; and all the world proved too strong for the strongest living man.

The eagle flew northward until it perched upon the Tuileries ; but the eagle's master was never again truly established there. In June, 1815, he had not a true friend beyond his own family and a set of military desperadoes. His enemies were all who desired the peace and welfare of civilised mankind. From documents cited by the French historians, it appears as though Wellington's original idea was that the Austrians should operate on the Upper Rhine in order to draw off the attention of Napoleon, while the Anglo-Prussian army should concentrate upon the Belgian frontier and prepare to march on Paris. But so soon as the intention of the French chief was perceived, namely, to attack the Anglo-Prussian armies in Belgium (and Wellington's despatches indicate that he took this view as early as the beginning of April), a definite plan of resistance had to be prepared for them. It was then settled between Wellington and Blücher that provision should be made against the course which past experience pointed out as certain to be adopted by Napoleon. As on former occasions, he would probably thrust his forces between the opposing armies ; and it would be their business, on the other hand, to close upon him. If the French fell first on Blücher, Blücher would fall back until Wellington could act upon their left flank : if the first attack were made upon Wellington, it would be Blücher's immediate duty to bring up his troops upon the French right : if the French spread out like a fan, the allies were to close in upon them like a pair of pincers. It must, however, be borne in mind that the Duke suspected his adversary of another design.

Foreseeing combinations arising out of the former supposition—which was in accordance with his actual intentions—Napoleon devoted his strategy to their counteraction. When attacking Blücher, his left was to be protected by a strong movement under Ney : when he proceeded to crush Wellington, Grouchy was to keep off the Prussians on the right. The first of these measures was, to a considerable extent, effected ; the latter not ; and this is the epitome of all that can ever be said of the six days' war in which the greatest genius of modern time was conquered. His subordinates were wanting in ability, perhaps in zeal ; but he himself incurs the blame of neglecting details and undervaluing the talents and energies of his opponents. The state of his health was anything but what it had once been ; and his mind may well have been clouded by his position. In his rear were an incompetent Council and a hostile Parliament ; all the ablest men in Paris inimical or indifferent. His old comrades were mostly alienated ; Murat

ruined ; Massena, Macdonald and Oudinot holding aloof ; Berthier in irresolute exile, Victor and Marmont organising the Bourbonists in Belgium, Clarke Minister to Louis at Ghent. Of the generals who remained, the fidelity was doubtful, or the zeal relaxed. Bourmont, with other officers, deserted as soon as they crossed the Sambre ; Napoleon and his devoted soldiers advanced in a cloud of doubt and distrust ; treason and death were in their thoughts and words ; in the bright spring weather they moved darkling to tempest and defeat.

Under such sombre and sinister omens the modern Prometheus confronted his destiny ; and what more tragic drama can be conceived ? One fancies that even cold-hearted diplomatists, Talleyrand, Metternich and company may have felt something like compassion when they looked back a few years, and remembered Napoleon at Schonbrunn, and the *embarras de rois* in the Theatre of Erfurt. The conqueror of those days was the same consummate captain who was now staggering on to an evident fall under the ban of Europe. Nothing now was left him but his strong brain and the hearts of his men ; but these, at first, sufficed him. On the 16th, the day after crossing the frontier, the French drove away from Ligny a superior force of Prussians under the fiery veteran, Blücher, while Ney held Wellington at bay and prevented him from coming to the support of his ally.

Nothing now seemed wanting to the success of Napoleon's audacious undertaking. The allied armies had been separated ; Wellington's army was scattered, that of Blücher in retreat ; Napoleon looked forward to dining at Brussels on the following evening and entering into negotiations with Austria and Russia at the head of a victorious host. But it could not be. Readers of *Vanity Fair* need not be reminded of the vivid delineation given by Thackeray—founded on the report of eye-witnesses—of the panic that agitated Brussels during the ensuing Saturday and Sunday, the false alarms of the fugitive Belgians, the swaggering of the French residents and their sympathisers, the excitement of the British visitors. One head, at least, retained its judgment ; one heart beat no faster. Wellington had promised the exile of Ghent that all should go well ; and he now undertook the fulfilment of his promise, calmly gathering his followers, the Duke fell slowly back, as once in Portugal, making his miniature Torres Vedras on the wheat-clad ridges between the Château of Goumont and the village of Ohain. He was perfectly acquainted with the movements of the Prussians ; indeed, they seem to have been known to all but the men whom they most vitally concerned. Wellington was in constant communication with Blücher ; he knew that the ardent old Marshal had not been really routed

at Ligny ; that he had since been reinforced by Bulow ; and that, instead of retreating to his base, he was concentrating on Wavre, in order to an immediate junction.*

Unaware of this†, Napoleon, as if led by a lying spirit, was going up to battle ; content with having detached his right wing with vague instructions to follow the Prussians and complete their imagined destruction. This wing was put under the command of Grouchy, and on that General the blame of all that followed has been ever since laid by Napoleon and those who have in later days adopted the legend of St. Helena. The so-called "Battle of Waterloo," therefore, cannot be understood unless we take pains to ascertain what Grouchy was, and how far he was in a capacity, by his nature and by his instructions, to afford such co-operation as might have obviated the catastrophe.‡

Those who view the scene in the usual way from the Lion-mound, Baedeker in hand, or listening to the guides, see little or nothing of importance for their instruction. The crest, which was the curtain behind which the holders of the position awaited the assaults of their enemies, has disappeared ; and one side of the sunk road into which—according to Victor Hugo—the cuirassiers fell headlong, is level with the plain. The Duke of Wellington once re-visited the spot ; then, declaring that his position had been obliterated, he departed and would never return. But on that Sunday morning he had his motley forces in a sort of natural earthwork of great extent, only open on the left, where he expected Blücher, and guarded in centre and to right by masonry-buildings and woods.

* Five bulletins were published by the authorities at Brussels up to the morning of the 19th, when at 3 A.M. the victory was definitely announced. A copy of this last is preserved by M. le Sénateur Picard, along with a spirited drawing of the charge of the cuirassiers on the allied centre, when the Prince of Orange fell wounded where the Lion now stands.

† The 3rd bulletin contained a detailed description of the plan of campaign : it was published at 7 P.M. on the 17th, and a well wisher of Napoleon's might have carried intimation of its contents to him in time to have affected the entire result.

3rd bulletin (17th June, 7 P.M.) : "At 6 o'clock we learn that Prince Blücher has moved his Head-quarters to Wavre in order to unite his corps with that of General Bulow. This movement has determined the Duke of Wellington to concentrate his forces and establish his Head-quarters at WATERLOO, so as to be in immediate readiness to effect a junction with the Prussian armies.

"(Sd.) Capellen."

[From *L'Oracle*, a Brussels paper, dated Monday, 19th June.

‡ The word "so-called" is used because the event of June 18th, 1815, did not take place at Waterloo and was not a battle. The attack of Napoleon was the attempt to storm an improvised stronghold, and Wellington perfectly succeeded in resisting the attempt until the arrival of the Prussian Marshal. The only "battle" was what took place at Plancenoit between Bulow and Napoleon's rear-guard.

To the south was the French army, flushed with its first success and expecting to succeed again. Whatever misgivings may have haunted the men and their mighty leader when they crossed the frontier on the 15th, were hushed for the time, as they looked forward to the loot of Brussels after a brush with the Anglo-Belgian army. All night a tempest of rain fell on the hosts lying on the heights between which runs the road from Charleroi to the capital. Napoleon broke his fast at the farm-house of Le Caillon, on a table which may still be seen there, as the sun rose on the cornfields reeking with the night's tempest and still shaded by thick mists, when Ney came in with the news that Wellington's force was invisible and probably retreating into the forest that lay between Waterloo and Brussels. Napoleon answered: "Your eyes have deceived you (*vous avez mal vu*) ; they cannot escape now ; it is too late." His only anxiety, therefore, was to catch the despised enemy and sweep him from the path. To make doubly sure, however, Grouchy should be called in to protect the right ; and, accordingly, a mounted officer was sent off bearing a letter from Soult to that effect. Much, if not everything, was, in truth, to depend upon the action of this right wing ; and its arrival should have been as much secured by the French leaders as the arrival of Blücher had been guaranteed by Wellington and his colleagues, Baron Muffling and Count Pozzo di Borgo. But the gods were weary of the terrible Titan ; he was no longer even true to himself, and men were ceasing to serve him accordingly. The right wing could not be recalled.

The Marquis de Grouchy was an old soldier and an old republican ; he had fought against the royalists of the Vendée in 1793, and had entered Bantry Bay as second-in-command to Hoche. Distinguished for his gallant conduct in many a famous field, from Hohenlinden to Leipsic, he had adhered to Napoleon through good and evil, had covered the retreat from Germany in 1813, and was now fresh from the suppression of a royalist rising in the South of France. It is hard to suppose that a man with that record could suddenly become a traitor to the chief whose person he had guarded during the retreat from Moscow ; but he was a nobleman of the old school, punctilious, unoriginal, deficient in initiative. Such was the officer to whom—some sixteen hours after the battle of Ligny was over—the task was assigned of "pursuing the enemy with a sword in his reins, and never losing sight of him." Grouchy, in fact, never gained that sight : encumbered by saturated ground and misled by false information, he led his thirty thousand men from Ligny to Gembloux and from Gembloux to Wavre, as much lost to his master, as if, in that master's vivid Italian phrase, they had all been swallowed by an earthquake.

The rest of the story is well known from the labours of Jomini, Brialmont, Chesney, Hooper, Ropes and other more or less able and impartial historians, differing in some details, but mostly yielding the same result. After sending off the officer with the letter to Grouchy—it is said that this messenger strayed into the Marshal's camp at seven in the evening far gone in liquor—Napoleon rode on for about a kilometer, and halted at an elevated point known as the Butte de Rosomme. Hence he could command the whole field, as the mist was lifting under the sunbeams of a summer morning; and he surveyed a scene which may well have filled him with pride and joy. The light was reflected by the casques and bayonets, the sabres and cuirasses of seventy thousand veterans; four columns in the first line, four in the second, and three in the third. In spite of the heavy ground, the cavalry took up their positions with precision, twelve squadrons of light horse on the right of the first line, twelve on the flank of the second, in rear twenty-four squadrons of Kellermann's men-in-armour with long straight swords, and twenty-four other squadrons commanded by Milhaud; while behind all were ranged the horse, grenadiers, lancers, and chasseurs of the mounted guard: the reserve, consisting of twenty-four battalions of foot-guards, was escorted by the division of light-cavalry commanded by Subervie. Such was the spectacle that greeted the eye of Napoleon between ten and eleven, as he stood upon the height of Rosomme and awaited the moment when the ground should be dry enough to allow of the advance of his artillery, nearly 250 pieces.

From the heights of Mont St. Jean Wellington also beheld the martial show, the finest that even he had ever seen. His own army was not comparable, either in number or in professional quality; in fact, he once spoke impatiently of it as "the most infamous army" that he had ever commanded. Napoleon, too, despised them; strong in the devotion of his own splendid force, and with a far superior artillery, he began the attack on Goumont and the right of the Anglo-Belgian position about 11-30. This was followed by the attempt to turn the left which ended in the repulse of the French by Picton and 'the frantic charge of the Union-Brigade under Ponsonby, in which the British lost both those leaders. About one o'clock Bulow's leading columns became visible on the French right; and Lobau's corps was detached to observe and restrain Bulow. Three hours later almost Napoleon was obliged to go to Lobau's aid; and the defenders of the ridge were proportionately relieved; not only were some 20,000 of their assailants diverted, but the attack ceased to be directed by the great captain. In his absence Ney squandered the

heavy cavalry. At 7 P.M. Napoleon, having driven Bulow back from Plancenoit, returned to the field, to find his cavalry decimated and disordered, with the whole Prussian army appearing on his right front, and Grouchy nowhere.

With what feelings he formed his last reserves of foot at La Belle Alliance and sent those bronzed veterans up the British slope under Ney, each must fancy for himself.* Glaring out of their bearskins, with colours flying and bands playing, the deep ranks of the Guard ascended the slope with fierce outcries, but as if on parade; but the shaven-faced boys behind the ridge were not easily intimidated. They had lost the match, so Napoleon always said; only they did not know the rules, and now they stood erect supported by two divisions of cavalry and numerous guns. The Guard never deployed; and, after a stubborn attempt, were swept down into the Charleroi Causeway; the Prussians, under Ziethen, came down from the high ground by Ohain; Bulow pressed forward from Plancenoit; the retreat became a rout, the Prussian drums drove the French all night.

An attempt has been made by some writers to represent Napoleon as already wrecked in mind and in body, a corpulent poltroon who fled from the field on which he ought to have laid down this life amongst those devoted followers. But this is an unworthy view. Napoleon was no mere soldier, "whose business 'tis to die:" he was a politician, on whose safety might hang the future of France. It is only after his return from the campaign that his character appears to break down his conduct to waver and his survival to lack justification. He was not an old man as years go, and his mere physical strength bore up well against the most frightful fatigue. But *quantum mutatus*; what a mental fall, what irresolution in so great a mind! First, he would stop at Laon, and collect his forces: next day he must go to Paris and make one more appeal to the public. Then, he is for dissolving the Chambers and assuming a dictatorship; before a week is over he has abdicated! He spends a few days at La Malmaison, and offers his sword to the Republic as a private soldier; then prepares to depart for the western coast to steal a march on the British cruisers and make off to the United States. This being a matter in which the strictest secrecy is required, the illustrious fugitive travels in semi-state, holds audiences and reviews; and, when he gets to Rochefort, discusses the means of evasion

* These feelings were expressed by the French officers on board the *Northumberland*: "L'infanterie Anglaise," they said, "nous a frappés d'étonnement" (Warden). It is, however, probable that Napoleon was not easily excited or depressed. The same author—himself a medical man—tells us that the ex-Emperor's pulse never beat more than 62.

until all chance of evasion is gone. When no alternative remains, he surrenders at discretion, writing a theatrical letter to the Prince Regent, as if he thought that one Power alone could dispose of a question that had been settled in a general congress.

But, when all that has been admitted, Napoleon remains the most imposing figure of our century, and his fall an incident of tragic wonder, as much to us as he seemed to Byron.

H. G. KEENE.

ART. VII.—THE BENGALEE LANGUAGE AND LITERATURE.

"*BANGABHASHA O SAHITYA*" is the title of a Bengalee work by Babu Dinesha Chandra Sen, B.A., Headmaster of the Victoria School, Comilla, on the history of the Bengalee Language and Literature. It is a neat, handy volume, running through 403 octavo pages, replete with information of the highest value to students who take any interest in the past of the Bengalee races or in their Literature. The author wisely limits himself to the period before the introduction of English education in Bengal ; for the influence of Western culture has, during the last fifty years, developed literature of a very different kind from that of the period preceding. The literature of that period was poetry, and of this is prose ; that was religious, this is mostly secular ; that moved in narrow grooves, but this embraces a much wider range of subjects. Dinesh Babu has confined himself to the former, less known, but very interesting period.

There are many still alive who remember the triangular duel between the Anglicists, the Orientalists and the Vernacularists which ended in the Resolution of the Government of India that high education in this country should be imparted through the medium of English and that the vernaculars should be encouraged. There are many still alive who remember the day on which the first great prose work, entitled the *Vetalapanchavinsati*, in Bengalee, was published by Pandit Isvara Chandra Vidyasagara, thus creating a new epoch in the history of the Bengalee literature. Of the men who worked hard for the new literature, some are still alive and some have lately passed away. The history of this period is well known and need not be written at the present moment. But quite different is the case with the history of the period just preceding it. Printing presses were unknown in those days. Works of great merit were often written ; but, unless professional musicians took them up, their circulation was very slow and often confined to particular localities. The work of collecting information about this period is one of extreme difficulty, and the difficulty has been multiplied tenfold by the neglect and obscurity to which these works were consigned by people intoxicated with the new knowledge imparted through the medium of English. It reflects great credit on the scholar who undertakes researches in this department.

The most noted name in this branch of research is that of

Dr. G. A. Grierson, C.S., C.I.E. His work on the Modern Vernacular Literature of Hindustan, published as an extra number of the Journal of the Asiatic Society of Bengal, is a magnificent production. But it is concerned with Hindi literature alone. Since the publication of that work in 1889, many Bengalee scholars have been anxious to bring out a similar work for their own language and literature, and many have been working on this line. The first of such works that appeared was a small pamphlet on the Vernacular Literature of Bengal before the introduction of English education, by the then Bengal Librarian. It was a *catalogue raisonné* of ancient Bengalee literature, printed and published up to that date. It opened the way, and an active search for Bengalee manuscripts began in various quarters, led by that admirably useful body of learned men, the Asiatic Society of Bengal. Many private individuals also devoted themselves to the work. The Bangiya Sāhitya Parishad, or Bengal Academy of Literature, was started with this as one of its special objects. But by tacit consent it was agreed that one scholar should be entrusted with the work of compiling and digesting the information already collected, and Babu Dinesha Chandra, whose enthusiasm and earnestness in the matter was an object of admiration to all concerned, took it up. Every one helped him with the result of his researches. For the first time in the history of Bengalee literature, all jealousy, obstructionism and petty feelings were set aside to enable him to produce a great work. Whoever reads Dinesh Babu's preface with care will be struck with the modest, yet straightforward, dignified, yet grateful, acknowledgment of the services he has received from his collaborators.

In one sense Babu Dinesh's work was much harder than Dr. Grierson's. Dr. Grierson had histories of Literature in the Vernacular to serve as a basis, but the Babu had nothing worthy of the name. He had to collect MSS. either himself or through friends; to read them; to classify them, and to digest them. The remoteness of his residence, in an out-of-the-way corner of Bengal, was a great drawback to him. It entailed a great deal of correspondence on him, and the progress of his work was often hindered by the dilatoriness of correspondents. But he has surmounted all these and other difficulties, and is now before the public. The public, in its turn, has received him kindly and his work is appreciated. He is a young man of about thirty years of age and he has already made his mark.

So much about the author and his work. We will now examine the subject-matter of his book. In doing so, we shall treat of the Bengalee character, Bengalee language and

Bengalee Literature separately. Babu Dinesha Chandra has not said much about the first; but it is one of the most interesting of subjects to all who care for the past history of Bengalee.

It has now been settled beyond the possibility of doubt that the Indian alphabet is of foreign origin. The oldest Hindu alphabet, known as the *Brāhmīlīpī*, or Asoka character, with its forty-six letters, was derived from the Semitic alphabet of twenty-two characters. The *Brāhmīlīpī* was used by Asoka in his inscriptions within India proper. The character was the same throughout, from Mysore to the sources of the Jumna. The *Brāhmīlīpī* developed in about a thousand years, and, for want of a better name, was known as the *Guptalīpī*, or the character used in their inscriptions by the Imperial Gupta dynasty of Kusumpur.

This character, though essentially one throughout Northern India, exhibited many slight local peculiarities. With the fall of the Gupta empire, it developed into three distinct geographical varieties, *Saradā* in the west, *Srīharsha* in the middle, and *Kutīla* in the east. *Saradā* is the father of the ancient and modern Kashmiri, Gurumukhi and Sindhi. Here it must, however, be noted that in Kangra and the adjacent valleys they still write a character much nearer to the *Guptalīpī* than to any other alphabet, ancient or modern. The *Srīharsha* alphabet in Central India was a short-lived one, and rapidly gave place to the various *Nagaris*, one specially developed variety of which is known as the *Devanāgarī*, or the Shastri alphabet used by Brahmins in writing their sacred works in the divine language. It may be noted here that a character closely resembling *Srīharsha*'s is still used in Tibet for writing Sanskrit. The *Kutīla* held its sway in Eastern India throughout the period of the ascendancy of the Buddhist Pal Kings of Magadha, and was extensively used in writing manuscripts and inscriptions throughout Eastern India, from Kalinga to Nepal and from Benares to Assam. Manuscripts in this character have been found in Nepal, written both in that country and in Bengal about the 11th century A.D. From the time of the Muhammedan conquest *Kutīla* began to develop local varieties. The Uriya character is essentially *Kutīla*, only with round tops, or *Mātrās*. The Uriya people used to write on palm-leaves with an iron pen (with a sharp end) known as a style, or *Khunti*. Horizontal matras were calculated to break their writing material, the palm-leaves, the fibres of which run lengthwise. The Uriyas, therefore, were adverse to horizontal lines, and took readily to rounded tops. The Bengalees, on the other hand, used to write with bamboo pens the tops of which were cut, not at right angles to the central line, but in a slanting manner. With such a pen it was extremely

difficult to write the letters which in Kutila were formed by curves or circles. So curves were changed into angles and circles into triangles. The Bengalees had no difficulty with such a pen in drawing horizontal lines on palm-leaves.

The Assamese is simply a variety of the Bengalee which preserves some of the old archaic forms of the Bengalee and Kutila characters. Ancient Maithili and ancient Bengalee differed but very slightly. Unless one had considerable experience in ancient palæography, it would be impossible for him to distinguish between Bengalee and Maithili manuscripts written in the 14th century. The modern Maithili is a compromise between Bengalee and Devanagari. The Nepalese still preserves some of the hooked tops of the old Kutila character ; and it also preserves some of its curves and circles.

The oldest manuscripts written in the Bengalee character are to be found in Cambridge. They were collected in Nepal, and were written in the years 1198, 1199 and 1200 A. D. by Sri Gayākara. They are Tāntrik works on Buddhism. It is a curious coincidence that these manuscripts were written in the years of the Muhamedan conquest of Behar and Bengal. In one of them the kingdom of Govindapaladeva, the last of the Pal Kings of Magadha—their empire having been long since overthrown by the *Senas*—is represented as *Vinashta*, or destroyed. Now, the custom of the scribes generally is to write, at the end of the manuscripts copied by them, the name of the king and the year of his victorious reign ; but in this case it is not the “victorious reign” that is celebrated, but the “destroyed reign.” There are some ancient Bengalee manuscripts in the Sanskrit College Library, and there are others, noticed by the late Rājā Rajendra Lal Mittra, which belonged to the first century of the Muhammedan conquest. The Pal and Sena kings had no coins of their own. The initial coinage of Bengal belonged to the Muhammedans. Following their example, the King of Tipperah began to coin money, with legends in Bengalee, in the first and second centuries of the Muhammedan conquest. We have not yet obtained any very old Bengalee inscriptions.

The origin of the Bengalee language is lost in obscurity. The lexicon of modern Bengalee contains a very large infusion of Sanskrit words ; but the grammar is Persian and Prakrit, and the pronunciation follows that of the Pali language. We form our plural of oblique cases by *digake*, *দিগকে*, or *der*, *দেৱ* ; but, if we examine this inflection closely, we find that it is a contraction of “*digarke*.” *Digar* is a Persian word denoting plurality, and some old-fashioned people still write “*tomār digar ke*,” “*āmār digarer*,” for what we ordinarily write

as "tomādigake," "āmārdiger." But ancient Bengalee is free from this Persian inflection.

But how old is the language? Babu Dinesh Chandra says that it originated during the time when the Pal kings held sway in Bengal, and, as instances, he adduces "Mānik Chandrer Gān," published in the journal of the Asiatic Society of Bengal for the year 1878, p. 149, as the oldest specimen of Bengalee. He also says that the proverbs known as "Khanār bachan" or "Dāk purushar bachan" belong to this very ancient period. As regards the antiquity of the agricultural sayings of Khanā, or the pithy and useful proverbs of Dākpurusha, there can be no doubt. But the Mānik Chandrer gān is open to doubt.

Babu Dinesh Chandra has not taken cognisance of the fact that we actually have a work of literature which is referred to the reign of the son of King Dharmapal, one of the earliest rulers of the Pal dynasty. This is the famous series of poems known as "Darmathākurer gān," "Dharmamangal," or "Dharmāyan." In European literature we find scarcely any poet writing a second poem on a subject already treated by his predecessors. But in India the case is different. Several poets have written on the life and adventures of Rāma. In Bengal this habit has developed greatly. We find as many Satyapirer gān as there are districts. The number of Manasār Bhāsān is legion. Babu Dinesh Chandra has already enumerated thirty-one poets who have written in honour of Manashā, the goddess of serpents, and it may be confidently asserted that his enumeration is not exhaustive. Similarly, we have a very large number of Dharmathakurer gān. Six of them are well known, namely, those by Mayurbhatta, Ghanaram, Rupram, Khelaram, Mānik Ganguli and Ram Chand Banerjee. The last five are all modern writers belonging to the 16th, 17th, or 18th centuries; but they are unanimous in saying that Mayurbhatta is the first poet who wrote on the glories of Dharma. They also all unanimously declare that Rāmāi Pandita, a Bayiti by caste, was the man who regulated the worship of Dharma. The worshippers of Dharma all over Bengal declare that they have received the process of worship from the same Rāmāi Pandita. Several of the formulas of worship, written in curious Bengalee, with the signature of Rāmāi Pandita appended to them, have recently been collected; and we have at last succeeded, after a good deal of trouble, in getting a bad copy of a fragment of Rāmāi Pandit's *paddhati*, or handbook of worship.

The language of the formula is peculiarly curious. The poverty of expression; the repetition of the same idea in the same form and the same words, shows that they were composed

at a very early stage of the development of the language. Some of Rāmāi Pandit's formulæ may, however, be attributed to a period when Buddhism was the prevailing religion in Western Bengal ; probably to the very period when Dharmapal and his immediate successors held sway. But it would be premature to say much at present about an author very few of whose compositions have come to our notice. One thing is sure, *viz.*, that the Dharma literature embodies the earliest traditions of the non-Brahminic population of Bengal, of a period when the influence of the Brahmins was but very little felt. It may be that this literature and the worship that it celebrates is a survival of the once famous and widely-spread Buddhism in India.

With the increase of the influence of the Brahmins in Bengal, the language received a new development. Sanskrit words, Sanskrit ideas and Sanskritised phrases began to be imported into a poor form of Prakrit, or perhaps a neglected patois of the Pali language. At the end of the 12th century the Muhammedans conquered Bengal ; but their influence upon the language was very little felt for centuries. The Hindus, or rather the literate class among them, rarely mixed with Musalmans, rarely borrowed their words, and still more rarely borrowed their ideas. During the whole of the early Muhammedan period the Bengalee language remained in close alliance with Sanskrit. This relationship became even more intimate with the great revival of Sanskrit literature in the 15th century, which ended in the establishment of the Navadip University and the independence of Bengalee pundits from the thralldom of Mithila. The reformation of Chaitanya helped greatly the development of the language ; but this development also was Sanskritic, the difference being that the followers of Chaitanya borrowed words from one branch of Sanskrit literature, while the Pundits borrowed from another branch. The great study of the Pundits was Hindu law, Hindu ritual and Hindu philosophy, while the study of Chaitanya and his followers was chiefly confined to belles lettres and light literature. We owe the philosophical terms used in Bengalee to the Pundits and the words relating to love and devotion to the Vaishnavas. The Vaishnavas were a travelling people ; while the Pundits moved but very rarely. The Vaishnavas, wherever they went, mixed with all classes of people, while the Pundits, in the few instances in which they travelled, moved only among Pundits. In this way the Vaishnavas introduced a stock of words from the current vernaculars of India also of the period. So, from an early period three different styles of writing prevailed in Bengal—one that used by the non-Hindu population, who delighted in

singing long poems in honour of Dharma, Manasha, or Chandi ; the second, the highly Sanskritised style used by Brāhmins, who translated the Rāmāyan, the Mahābhārat and the Purāns ; and the third, the less Sanskritised, though exceedingly harmonious, style of the Vaishnavas.

This state of things continued till the period of the Mughal conquest. With that conquest, Persian became the Court language of Bengal, and its study became essentially necessary to those who wanted preferment in the administration. Gradually the court language filtered down even to the lowest classes of the population, and a large influx of Persian words was the result of the influence of Mughal civilisation in Bengal. This influence of the Persian on Bengalee is so great that it has modified even the grammatical structure of the language to a considerable extent. The religious classes, however, stood completely aloof from this influence. Translations from Sanskrit made during the Mughal period exhibit but few traces of Persian. But all original works were subject to Persian influence ; and Kabikankan and Bhāratchandra are both full of Persian words that were current in their time.

At the time of the British conquest three distinct styles of writing prevailed in Bengal ; 1. The Sanskritised style of the Pundits and the Vaishnavas ; 2. The highly Persianised style of the Court-going people ; 3. The language of what was known as the *bishailok*, or ordinary gentlemen. The last was the real Bengalee. It used neither hard Sanskrit terms, nor hard Persian terms. It used only such terms as were then current among the people, irrespective of their origin. The first was called the *sādhubhāshā*, the second the Court language, the third the *bhāshā*. The ancient translation of Smriti works is the best example of the *sādhubhāshā* used in Bengal. It was a style understood all over India ; it was Sanskrit without inflections. Mussalmani Bangla works of the time afford the best examples of the highly Persianised style. The songs of the Kabiwalas, the bands of minstrels, who delighted in wit-combats, were examples of the best style in the *bhāshā*, or ordinary language.

But a change came over the spirit of the language with the introduction of English education. Along with the English language, the Government resolved upon encouraging the study of the vernacular, and for that purpose some eminent scholars, who had received their education in the Sanskrit College, Calcutta, were entrusted with the task of writing works in the vernacular. The Calcutta Sanskrit College, in the middle of this century, was an institution neither popular nor respected. There were many eminent Pundits in it ; but they were looked down upon by the Pundits of independent *tols* throughout the

country, because they accepted service under *Mlechas*. The course of studies in that institution used to be prescribed by eminent Orientalists, such as Horace Wilson, Trevelyan and others ; and it differed widely from that current in the *tois*. The scholars of the Sanskrit College were out of all touch with the Pundits of the country ; and, when they were entrusted with the work of manufacturing vernacular books, they simply imported a huge number of unknown Sanskrit words, took off their inflections, and put them into sentences. The Educational Department helped the circulation of these books ; and all the three different styles that were current in the early part of the century were swept away and obliterated under the influence of the Sanskrit College style. What was studied as the vernacular was neither the vernacular which the students knew, nor the vernacular current among any class in the country. This unnatural state of things, however, could not last. It collapsed on account of the excess of its absurdity ; and Sir George Campbell's caustic remarks on Sanskritised vernaculars sounded its death-knell. Educated people began to look about for an intelligible style of writing. Some thought that the language current amongst the masses was the language for literature, and these produced works like "Hutom penchār naksha." That, again, was considered to be rather vulgar by another class of writers, who perhaps knew better. They took the conversational style prevalent among the higher and better class of society as their model. But this they soon found to be insufficient. Some, again, began to borrow extensively from the language of their rulers, and this they did to such a ridiculous extent that the authors became a laughing stock to the people.

Gradually people came to their senses. They found that, in order to form a good Bengalee style, the study merely of Sanskrit, or of Persian, or of English would not do ; that, before coining words or borrowing from other languages, they should examine the capabilities of their own language and literature. And they were surprised to find that they had an extensive literature which might help them in forming a good style. With the knowledge of this fact arose a national desire for the study of this literature, and the search for works in ancient Bengalee began in earnest.

Babu Dinesh Chandra deserves the hearty thanks of all those who are interested in the study of Bengalee literature and are anxious to form a style that shall be at once dignified and intelligible, easy and flowing, expressive and full of sense.

The Brahmins are regarded as a very conservative people. They rarely change their manners and customs ; they rarely change their habits. Why was it, then, that these very Brah-

mins took upon themselves at an early period the task of creating a vernacular literature? This is a problem which is very difficult to solve. In the 12th and 13th centuries and earlier the number of Brahmins in Bengal was small, and their field of work in Hinduising the population was vast. Sanskrit afforded them a vast field of study and authorship, nor were they backward in writing Sanskrit works and studying Sanskrit literature. What was the reason, then, that induced them to take to the hated vernacular? The point is one on which it is very difficult to hazard an opinion.

But it may be surmised that the Brahmins had an object in what they did. They were brought to Bengal, it appears, with two political objects, *viz.*, 1. The spread of Hinduism; and, 2. The suppression of its great rival, the current Buddhism of the day. The Sena kings were their great allies in their endeavour to secure both these objects. But the rule of the Sena kings came to a violent and abrupt end through an unforeseen event. The higher form of Buddhism was already at a discount. Its monks and lay-professors were flourishing in foreign countries, far away from their original home, now in the hands of their enemies. Brahmins of Bengal and Mithila wrote books expressly with the object of suppressing Buddhism, with such titles as *Bauddha dhikkar*, Fie to the Buddhists, and with such objects as *prachandapashandata-mastitirshyah*, *i.e.*, dispelling the darkness produced by fierce non-believers. The Sena kings used to grant lands to Brahmins in perpetuity in close proximity to Buddhist monasteries. The Buddhists were ridiculed in poetic compositions and execrated in public. The very sight of a Buddhist was considered an occasion for performing expiatory ceremonies. All this can be seen in the literature of the Sena period.

The Buddhists were fallen, ruined, but not altogether gone. The lower class population, the masses of Bengal, the dumb millions, were not yet all Hindus. The object of the Brahmins was only half attained, while the Muhammedan conquest put an end to their political power. The conquest staggered them for a while. The thirteenth century was barren of literary productions; but it was not a difficult task for the shrewd Hindu to gauge thoroughly the Muhammedan character in the course of a century. They easily saw the weakness of the early Muhammedan rulers. It was not difficult for them to see that these were a rude people, who cared more for personal enjoyment than social, religious, or political reformation. As soon as they discovered this, they engaged again, with renewed vigour, in the pursuit of their original object, *i.e.*, the spread of Hinduism amongst the masses; but under greatly altered circumstances. They had not the king with them. Anything

they attempted, they must accomplish by their own exertions. The lower classes had their teachers, like Rāmāi Pandit and Birup, the sage belonging to the *Dom* caste, mentioned by Taranath, the Tibetan monk who wrote a history of Buddhism in India. They had also their own legends and traditions, embodied in their vernacular and sung by their own minstrels. In order to create an influence amongst these people, the Brahmins, shorn of their political power, must needs have recourse to persuasion, *i.e.*, speaking to them in their own language. The masses must be made to understand Hindu shastras, to realise Hindu ideals. Hindu notions and theories must be brought home to them. How could this be done?

Some Brahmins took to their form of worship and set up images of *Manashā*, the goddess of serpents, and Mangal-chandi, the dispenser of blessings, and easily made their fortune. In the 15th century the worship of these two deities was regarded as the shortest way to wealth by Brahmins, and Chaitanyadeva, in the earliest stage of his career as reformer, was advised by many to worship them. Other Brahmins, again, thought the worshipping of aboriginal deities rather derogatory, and so they began to translate Sanskrit works into the vernacular. If there is any truth in the statement contained in pp. 67, 68, 69 of Babu Dinesh Chandra's book, regarding the encouragement received by Kīrttibasa, the first Bengalee translator of Sanskrit works, from a Hindu Rajah, perhaps the founder of the Hindu dynasty which, for a short time, destroyed the Muhammedan rule in Bengal, it simply shows how these translations were appreciated in those days.

Seeing that the vernacular would be a means of reaching the hearts of the masses and thereby extending their influence, they took to it with enthusiasm. We hear of the translation of many Sanskrit works in the 15th century. Bijay Pandita translated the *Mahābhārata*; Guṇārāja Khan translated the *Bhāgavata*, and so on. The ideal presented to the masses by these translations went a great way in checking the spread of any aboriginal or indigenous religion of Bengal. But in provinces where the Muhammedans had the upper hand, the conversion of masses to Muhammedanism was very rapid. Some scholars are of opinion that the masses in East and in Central Bengal, who professed either a low form of Buddhism, or an aboriginal religion, were easily converted to Muhammedanism, as they had no sympathy with the various restrictions imposed upon every-day life by the Brahmins, and as they were conscious that the Brahmins would never treat them on an equal footing, which the Muhammedans were always ready to do. It was the great merit of Chaitanya that he arrested, on the one hand, the progress of

Muhammedanism in Bengal, and the Tantrik mysticism, on the other. In fact, the Brahmins were powerful enough to check the spread of any form of religion which found a *Dom* or *Bayti* for its priest ; but they were powerless against the preachers of a vigorous and simple faith like that of the Muhammedans. Chaitanya's faith had the advantage of being simple and exceedingly attractive. It was more than a match for Muhammedanism, in spite of all the political power at its back. It effectually checked the wholesale conversion to Muhammedanism. It spread its influence over Hindus and Muhammedans alike, and it took the lower classes under its special protection. The literature of Chaitanya bears the impress of his faith and his character. It is charming, attractive and persuasive.

The Brahmins who joined Chaitanya wrote in Sanskrit, or translated from Sanskrit. All original works in this literature belonged to other castes than Brahmins.

While the progress of Chaitanya literature was rapid and widespread, the Brahmins were not absolutely silent. They were either writing Hindu works in Sanskrit, or translating them from Sanskrit. Thus, in the 16th, 17th and 18th centuries we have Hindu literature running on two parallel lines, that of the Brahmins, and that of the Vaishnavas. In the 19th century the Brahmins have simply changed the style of their translations. They were formerly metrical, but now they are in prose. The Vaishnavas still continue their metrical compositions, and some of their best poets belong to the 19th century.

Babu Dinesh Chandra has followed a strictly chronological arrangement, dividing Bengalee literature into several definite periods. This arrangement has both its advantages and its disadvantages, and, owing to the inveterate habit of the Bengalee poets of writing again and again on the same subject, the disadvantages of the Babu's system of arrangement are greater than the advantages. The more rational course would have been to treat of the literature of each cult separately, and that in chronological order. In that case Bengalee literature would have been divided into the literature of the *Dharma* cult, of the *Manasa* cult, of the *Chandi* cult, of the *Siva* cult, of the *Vaishnava* cult, and of the Brahmins. The non-religious works, which are not of much importance, might have come at the end under the head of miscellaneous. It would thus have been easier to remember the names of authors and books, and to study the works belonging to each cult or sect separately, and to trace the progress of society and of ideas among the various sectarians in the most reliable of records—records left by members of their own

sects ; to note how the language changed from Mayura Bhatta to Khelaram, from Khelaram to Ghanaram, and from him, again, to Manik Gangulie ; how many un-Hindu ideas were eliminated in the course of time from the Dharma-cult literature, and how new experiences and new ideas found a place in it.

Many curious instances of these changes may be noted. In the *Rámáyana*, for instance, composed by a Vaishnava poet in the middle of the present century, all *Sákta* stories and ideas have been left out. *Rám* does not worship *Durga*, as in the current editions of *Krittivas's* works, before the final overthrow of *Rávana* ; but he achieves the destruction of *Ravana* and his followers by his own power. The exile of *Sítá* ; the war between *Ráma* and his unknown sons ; the expulsion of *Lakshmana*, appeared to be rather cruel facts to the tender-hearted and sweet-tempered Vaishnava poet, and he dropped them altogether. His *Rámáyana* ends in a curious way ; *Ráma* and *Sítá* entering an *Asoka* grove, which may be compared with the Paradise of the Jews, the *Sukhávatí* of Buddhists and the *Vrindavana* of the followers of *Chaitanya*, that is, a place for the enjoyment of final beatitude.

If such liberties could be taken by a Vaishnava and a nineteenth century poet with respect to such a well-known epic as the *Ramayana*, it may very well be imagined that greater liberties have been taken with respect to less known works. As has been previously stated, there are thirty-one works on *Manasa*, the story being in every case the same. *Dwija Vansidas*, writing from East Bengal in the fifteenth century, gives an account of a sea-voyage that was prolonged for more than fifteen days beyond Ceylon ; and he gives us a grand description of the great Indian Ocean in a storm. People writing after this century, on the other hand, stop at Ceylon, because, as we know from history, the high seas in the sixteenth century were swept over by Portuguese fleets, and the timid Bengalee gave up the bolder venture. Later works, again, do not go even so far as Ceylon ; they limit their voyages to some much nearer place on the coast of the Bay of Bengal. The lay in honour of the goddess of serpents, written by *Bipradas Peppalai* in the year 1495, contains a glorious description of the City of *Satgaon*, the emporium, in those days, of sea-borne trade in Bengal. But from the lays written in subsequent centuries the description of that city gradually disappears.

If all the works of these various cults were brought together and studied in a strictly chronological order, a good deal of information about changes of manners, customs and religion, and about political and social revolutions, might be obtained.

It may here be noted that a *Chittagong* compiler has brought

together the best chapters of the works on *Manasa* by twenty-two different poets and published them in a work entitled "Bais Kabir Manasa." The study of this work alone will, however, be productive of no good result. It is rather calculated to do some mischief to historical study by bringing together things and events of very different periods. The best arrangement for a history of ancient Bengalee literature is to treat the different cults chronologically, and then, under each cult, to treat of the various works also in chronological order. Babu Dinesh has not followed this order, and consequently his book is likely to confound beginners. He has, without much consideration, imported what is an excellent thing for English literature into Bengalee.

Most of the Bengalee poets known up to the time of the publication of Babu Dinesha Chandra's book belonged to the Rârha country, or Western Bengal ; and hence an opinion prevailed among the educated classes that East Bengal contributed little, if at all, to the development of the Bengalee language or literature. Some thought that, before the present generation, there were no poets in that part of the country, and that Babu Nobin Chandra Sen was the first poet who hailed from it. But, thanks to the exertions of Babu Dinesh and his associate, Babu Akrur Chandra Sen, we have now got a host of very ancient poets from the East ; and these were all Brahmanical writers, not one of them belonging to any particular cult.

Sanjya and Kabindra Paramesvara translated the whole of the Mahabharata, the first in the fifteenth century, and the second under the patronage of one of the generals of Alauddin Hussain Shâha, of Bengal, in the beginning of the sixteenth century. Their language is fully Sanskritised, and little trace of the real ancient Bengalee, is to be found there. Srikara Nandi also wrote under the patronage of a Muhammedan general, and he translated only a portion of the Mahâbhârata. He followed the style of writing of his predecessor Paramesvara. In the West the Brahmanical poets were, for more than two centuries, cast into shade by their more successful contemporaries, the followers of Chaitanya, and these were the leaders in Bengalee literature. But the case in the East was different. There were very few Vaishnava poets in that part of the country. The writers were, as a rule, Brahmanical. They translated the Purânas—the Nârada Purana, Harivansa, Brahma Vaivartta Purâna, Bayu Purân, Garuda Purâna, Kalika Purâna, Padma Purân, and so on. They translated Sanskrit poems like the Naishada Charita, and they wrote such instructive religious poems as Mâyâtimira Chandrikâ, *i.e.*, moonlight to dispel the darkness of illusion. In East Bengal, we find the only Bengalee poem in honor of Siva, namely, Mrigalabdha

by Ratideva, and also by Raghu Deva. This is a very ancient work, and it reminds us of the Bengalee phase of the struggle between Buddhism and Saivism, in which the latter was invariably successful.

The Eastern people showed a many-sided activity in propagating the Brahmanic faith. They wrote Sakuntalá, Prahlád Charita, Indradyumna Upakhyána, stories from the Mahabharata and Ramyana; and, as a rule, the Eastern people were stricter Hindus than their brethren in the West. It is a matter of very great regret that the works of these authors were so long unknown. To have neglected poets who did so much for the good of their country and their religion, is evidence of a serious defect in the national character of the Hindus. Now that they have been brought to light, we hope the people will show their due appreciation of them by studying them carefully.

In the matter of the Eastern poets, Babu Dinesh Chandra deserves the credit of a discoverer. He has laid bare one stratum of thought, and one phase of authorship, the value of which cannot be over-rated. His services in respect to Vaishnava literature, too, are very great. His search has brought to light many important works. But we reserve the consideration of the Vaishnava literature for the present.

ART. VIII.—THE ANTHROPOLOGICAL SURVEY OF
SOUTHERN INDIA.

1. *Anthropology of the Todas and Kotas of the Nilgiri Hills ; and of the Brâhmans, Kammâlans, Pallis and Pariahs of Madras City.* By Edgar Thurston, C. M. Z. S., Superintendent, Madras Government Museum. Madras : 1896.
2. *Anthropology of the Badagas and Irulas of the Nilgiris, and of the Paniyans of Malabar.* By Edgar Thurston, Superintendent, Madras Government Museum. Madras : 1897.

THE numerous races, castes and tribes which inhabit Southern India had not hitherto been studied with that degree of minuteness and specialisation that were required for the advancement of existing knowledge about their origin, early history, traditions and religion. What was known regarding these interesting peoples was contained in such works as Breeks' *Primitive Tribes of the Nilgiris*, King's *Aboriginal Tribes of the Nilgiris*, &c. But this knowledge, though based on original observations, and, as such, very valuable, did not come up to the standard of scientific accuracy demanded by the New Anthropology, which, according to its modern acceptance, comprises the cognate sciences of Anthropography and Ethnography.

The former branch of Anthropology treats of man and the varieties of the human family from a purely physical point of view, that is, from a structural and functional aspect ; recording the measurements of various parts of his body, his cephalic index, bigoniac, bizygomatic, nasal index, facial angle, &c., &c. ; while the latter branch deals with him as a social and intellectual being, enquiring into his manners, customs, institutions, history, traditions, language, religion, intellectual aptitudes, industries, arts, &c. The knowledge hitherto existing regarding the castes and tribes of Southern India was of an ethnographical character, while hardly anything was known about their physical characteristics. The study of these tribes and castes, from a strictly anthropological point of view, has therefore been rendered all the more necessary, that similar enquiries have been set on foot in other parts of India. In Bengal the prosecution of these enquiries has been entrusted to the Asiatic Society of Bengal, which has started a special branch to deal with the subjects of Anthropology and Ethnography and is publishing the results of these investigations in the third part of its *Journal*. These investigations are being made on the lines approved by Professors Flower, Turner and Topi-

nard, and also include the measurement of representative specimens of the chief tribes and castes of India. In the North-Western Provinces Mr. E. J. Kitts, of the Civil Service, has been carrying on these enquiries with special reference to the tribes and castes resident in those provinces. And lately a detailed anthropological survey of the races, tribes and castes which inhabit Southern India has been commenced by the authorities of the Government Museum at Madras, which promises to become, in course of time, the centre for the study of the Anthropology of the Madras Presidency.

This survey comprises within its scope, not only the record of the anthropometric measurements, but also detailed description of other physical characteristics (skin, eyes, hair, face, &c.), personal adornment, clothing, tattooing, manners and customs, religion, ceremonial observances, marriage customs, games, arts, industries, &c. In addition to this, photographs are taken of representative specimens of each tribe and caste, and collections of jewellery, clothing, weapons, domestic utensils, musical instruments, models of dwelling huts, &c., are made and exhibited in the Madras Museum, which will thus become, in course of time, a guide to the anthropology of the native inhabitants of Southern India, illustrated by objects and pictures.

It is a matter for sincere congratulation that this detailed survey has been commenced at so opportune a moment. Many influences are now at work which are modifying the conditions of life, manners and customs, morality and even the very language of the aboriginal races. Needless to say that sufficient evidence can be adduced to prove that the influence of western civilization, import trade with other countries, and the daily increasing struggle for existence, are working out a silent but mighty revolution among the aboriginal and non-aboriginal natives of the Southern Presidency. The indigenous population are giving up the use of country-made cloths for that of cottons of European manufacture, and employing tiles to roof their houses with, instead of the primitive thatch. The turban—the national head-gear of the natives of Southern India—is being gradually replaced by the less becoming pork-pie cap, or knitted night-cap of gaudy hue. Native peasants are taking to the use of beads and imitation jewellery of European make in lieu of the more beautiful and finely-finished jewellery of indigenous manufacture. Cotton-stuffs and other wearing materials are now no longer dyed with the indigenous vegetable dyes, the use of which is being supplanted by that of the cheaper and more rapidly operating anilin and alizarin dyes of Europe. The aboriginal natives no longer kindle fire by the friction of their primitive fire-sticks, but have taken to the use of lucifer-matches.

Besides these changes, the dissemination of education amongst the people, the introduction of reforms in existing religious beliefs, and the suppression by the British Government of such horrible practices as Thuggi, Sutti, the *meriah* human sacrifices of the Khonds, and Toda infanticide are a few among the manifold factors which are slowly but surely changing the primitive manners and customs and modes of life, not only of the various races and tribes of the Southern Presidency, but also of those throughout the peninsula of India. It is now, therefore, high time for the commencement of a systematic anthropological survey of the races, tribes and castes of India ; as a few years hence no aborigines will be left for the purposes of study, and those that will be left will be so completely changed by contact with a higher form of civilization as not to retain any of their primitive modes of life, customs or beliefs. It may, therefore, be presumed that the less influenced by a higher civilization is the tribe, the more valuable is the evidence afforded by the study of its institutions, manners and customs. Many such tribes, unchanged by contact with higher forms of culture or belief, have still their homes in the rocky fastnesses of Southern India, which therefore afford a happy hunting ground for the investigations of the scientific anthropologist. Among them may be mentioned the Todas and Kotas of the Nilgiris, the Badagas of the plateau, and the Irulas and Kurumans (Kurumbas) who inhabit the lower slopes of those hills, the Muppas, Urāli Kurumans and Paniyans of the Wynaad and the Cherumans of Calicut.

The Director of the Madras Museum has very opportunely started his investigations among these interesting tribes, taken anthropometric measurements of representative individuals among them and placed on record a trustworthy account of their manners and customs. Photographs have also been taken of representative individuals of these tribes, dressed in their national costume and adorned with their native jewellery, as also of their primitive habitations. The results of these investigations have been published in part in the form of the two bulletins under review, and the rest will be published in the future issues of this publication.

The first part of these bulletins treats of the anthropology of the Todas and Kotas of the Nilgiri Hills and of the Bráhmans, Kammálans, Pallis and Pariahs of Madras City, and the second part deals with the Badagas and Irulas of the Nilgiris and the Paniyans of Malabar. Both these publications are illustrated with a number of beautiful photographic likenesses of men and women of the tribes dealt with.

A very curious people are the Todas who live on the slopes of the Nilgiri Hills, and to whom the most sacred objects on earth are a holy

The Todas.

dairy-man (pālāl) and a large-horned race of semi-domesticated buffaloes on whose milk and the products thereof they, to a large extent, depend for their subsistence. From the returns of the last census (1891) it appears that the Todas number 424 males and 312 females, total 736, thereby showing an increase of 43 persons over the numbers recorded during the census operations of 1871 and 1881. The typical Toda man is above medium height, well-proportioned and stalwart, with straight nose, regular features, and perfect teeth. The principal physical characteristic by which the tribe are distinguished from the other aboriginal tribes of the Nilgiri Hills, is the development of the pilous (hairy) system. The Todas clothe themselves with an outer garment (putkūli) of thick cotton cloth, with red and blue stripes woven into it, which reaches from the shoulders to the knees, hanging in graceful folds, and one end of which they fling over the left shoulder.

The Todas are sub-divided into five clans, *viz.*, Kenna, Kuttan, Paiki, Pekkan and Todi, the members of each of which have no distinguishing dress or mark. Though the Todas are endogamous as a tribe, intermarriage between the Paikis and the Pekkans is said to be forbidden, but the rest of the clans intermarry freely.

The religion of the Todas is a very simple faith, which has, in modern times, been leavened with an admixture of Hindu rites and superstitions. The Todas worship a being whom they call Kadavul, and who, they believe, is the creator of the earth and sky. They offer prayers to him every night and morning, imploring him to protect their cattle, their wives and their families. They also worship the rising (but not the setting) sun and the moon. They believe that the souls of dead men go, accompanied by the spirits of the buffaloes sacrificed at their funeral, to heaven (āmnād), over Makurti peak, and that the soul of a person who has, during his earthly existence, led a good and pure life, will enjoy perpetual bliss in those elysian regions, while a man who has led an evil life on this side of the grave will be doomed to condign punishment there.

The Todas have a further tradition to the effect that, on the road leading to heaven, there is a river full of leeches, which has to be crossed by a thread which will snap beneath the weight of a bad man and plunge him into hell (pūfērigēn), but will afford a safe passage across to a good man. It is further believed by these primitive children of the hills that a man who has led an evil life on this earth returns to his mundane existence in the guise of a giant or demon who goes about slaying Todas and people of other races.

The Todas pay special devoirs to Bētākan, the god of hunting, who has a temple at Nambalakōd in the Wynād, and to

Hiriadēva, the bell-cow god, whose temple is at Mēlur, where Badagas perform the curious ceremony of walking through the fire. They also worship the Hindu god Ranganātha with offerings of cocoanuts, plantains, &c., at the temples at Nanjengōd in Mysore, and Karamaddi, near Mettupalaiyam. If a woman proves barren, her husband, with or without her, undertakes a pilgrimage to the temple of the god Ranganātha, and prays to the swāmi to give them offspring. Sometimes the husband of the woman takes a vow to let the hair of his head grow long and offers it as a sacrifice to the swāmi as soon as the barren woman is brought to bed of a child.

Among instances of Toda superstition may be mentioned the taboo on pregnant women against crossing a river or other running water, it being believed that the god who presides over the river will punish the violator of the taboo with the direst consequences of his wrath. Diseases are believed by the Todas to be caused by malignant devils and spirits. Dr. Edgar Thurston came across a woman who wore round her neck a copper-plate wound into a spiral, on which mantras were inscribed. She had dreamt evil dreams when laid up with fever and wore the amulet to exorcise the devils and keep herself safe from their threatenings and the bad dreams.

The Todas have lately taken to many Hindu religious practices, such as shaving and marking the foreheads with streaks and spots, of which practices eight instances were met with by Dr. Edgar Thurston.

The most curious among the Toda institutions are those of the Toda priesthood and of the Toda dairy-temples, or lactariums. The Toda priesthood comprises five classes of priests, or dairy-men, who rank as follows in order of precedence :—

- (1) Pālāl (priests of the tiriēris).
- (2) Vorzhāl.
- (3) Kokvalikarpāl (at the Tarnāt mand).
- (4) Kurpulikarpāl (at the Kāndal mand).
- (5) Pālkarpāl (called Tarvēlikarpāl at the Tarnāt mand).

A typical tiriēri (dairy-temple, or lactarium) consists of a dwelling-hut for the pālāls or dairy-priests, a separate hut for the Kāltamāks, or sacred herdsmen, a large and small cattle-pen (the latter for cow-buffaloes in milk) for the sacred herd (swāmi mārdu), and a tiriēri or dairy-temple which contains the sacred bell (māni) and dairy appliances. The tiriēri and its grounds are tabooed to all the lay Todas, and none but pālāls and kāltamāks are permitted to enter its precincts.

The bell-cow is more sacred than the other members of the herd. When a bell-cow dies, the bell descends to her daughter, or, in case of the non-existence of female offspring, a cow is brought from another tiriēri. The bell-cow does not

usually wear the bell, but does so when a move is made to a distant tiriēri for the periodical change of pasture grounds.

Before a man can become a pālāl or a kāltamāk, he has to undergo some initiation ceremonies. A pālāl-designate has to live in the forest for two or three days and nights all but naked and subsisting on one meal of rice daily and drinking the juice of the tud tree (*Meliosma pungens*). On the last day of the retreat, the neophyte does puja to a black cloth—the distinguishing garb of a pālāl—and then, clothing himself with it, is initiated as a full-blown pālāl and goes straightway to the tiriēri. Nowadays, the pālāl has to serve in this capacity for ten to twelve years, but he can throw up his office whenever he chooses to do so, with the permission of a pānchayat. On resigning, the ci-devant pālāl returns to his mand or village and resumes the duties of a householder.

A kāltamāk-elect has to retire to the forest and live there for a day and a night, all but naked; and on the following morning he drinks some juice of a tūd tree, puts on a white cloth, and is thereby initiated a full-blown kāltamāk, and is then taken to the tiriēri. There is no fixed time prescribed for the service of a kāltamāk, and a kāltamāk may eventually be promoted to a pālāl.

The duties which a pālāl has to perform may be described as follows: As the day dawns, he throws open the cattle-pen, and sends out the sacred cattle to graze in the charge of a kāltamāk, or sacred herdsman. Then he performs the necessary ablutions and thereafter enters the tiriēri, or dairy-temple, and offers up puja to the bell-god. At about 7-30 or 8 A.M. he comes out of the tiriēri, puts on a black cloth, and salutes the sacred cattle, which must have by this time returned from grazing, by raising his wand and bamboo measure (khāndi) to his head, and commences milking the cows. After milking is done, the buffaloes are again sent out to graze, and the milk is taken to the tiriēri, where further pujas are offered up. On entering the tiriēri, the pālāl dips his fingers in milk three times, puts his fingers on the bell-god, and apparently utters the names of some gods. The morning meal is then cooked for both pālāl and kāltamāks. Every three or four days the pālāl makes butter and ney. Between 4 and 5 P.M. the buffaloes return home, and are shut up for the night. Then further pujas are offered up in the evening, after which the pālāl takes his evening meal and retires for the night. Sometimes a pālāl has to attend a pānchāyat at some distance from the tiriēri and act as a judge, enquiring into cases and delivering judgment, which is accepted by the other members of the pānchāyat. The pālāl also does a little trading—selling the milk, butter and ney to the lay Todas and Badagas. He

brings the sacred dairy-produce outside the precincts of the tiriēri, keeping the intending buyers at a distance, and, when he has returned to the tiriēri, the articles are taken away by the purchasers and their value in money is left in their place.

The two dairy-temples of the Kāndal mand (village) are called Kurpūli and Orzhālli, and the priests thereof are designated Kurpūllikārpāl and Vorzhāl. The Kurpūllikārpāl belongs to the Kenna clan, is selected for the office by the headman of the mand, and is paid six rupees per annum. His duties are to graze and milk the buffaloes belonging to his temple, make butter and ney, distribute the dairy-produce among the residents of the mand and perform pujas in the temple. He is subject to the authority of the headman of the mand and has to obey the latter's orders and go to bazars and villages, &c. The vorzhāl must belong to the Paiki or Pekkan clan, is appointed by the headman and is paid six rupees per annum. He has to perform the same duties as the Kurpūllikārpāl, but he may not leave the mand for the purpose of going to bazars or villages. During the kurpūllikārpāl's absence, the vorzhāl may milk the former's buffaloes; but the former, being inferior in rank to the latter, is not allowed to milk the latter's buffaloes. There is no fixed time for the service of either the kurpūlli or the vorzhāl, who may resign at any time on being relieved by a successor. Both of these classes of priesthood have to lead a strict life of celibacy; but a married man may also officiate as a priest, provided he lives apart from his wife during the tenure of his priestly calling.

The three dairy-temples of the Tārnat mand are called kokvēli, tarvēli and orzhālli; and the priests attached thereto are respectively designated kokvēlikārpāl, tarvēlikārpāl and vorzhāl. Each of these temples has its own buffaloes, which are milked by the kokvēlikārpāl, and the products of which are sold by him for his own benefit. The kokvēli remains in office for three years only, and can be succeeded by his brother alone, the office thus remaining, by virtue of hereditary succession, in one and the same family. The tarvēlikārpāl and the vorzhāl milk the buffaloes of their respective temples and distribute the dairy-produce among the residents of the mand. The vorzhāl draws a salary of six rupees per annum. All the three classes of priests attached to the temples of the Tarnāt mand have to perform pujas in their temples, in addition to doing their allotted work in the dairy.

Besides the pālchis and tiriēris, the Todas maintain, as dairy-temples, some structures called boaths or boas. There are four of these curious temples on the Nilgiri plateau, viz., at the Muttanād mand, near Kotagiri, near Sholūr, and at Mudimand. The boath is a circular stone structure, about 25

to 30 feet high, with a thatched roof and surrounded by a circular stone wall. It contains milking vessels, dairy apparatus and a swāmi in the shape of a copper bell. This sacred building is tabooed to all laymen, and no one is admitted within the precincts of this *sanctum sanctorum*, except the dairyman-priest, who is called a vorzhāl, and is appointed by the village headman and his brother.

Morality is at a very low ebb among the Todas previous to marriage. With them marriage is nothing but a civil contract, which is regarded as binding and acts, to a certain extent, as a check on promiscuous intercourse. When a girl attains the age of puberty, she has to undergo an initiatory ceremony in which a strong man has to test whether she is physically fit to enter into the married state. The selected man may subsequently marry her, or she may marry any one else whom she may accept as agreeable to her. A man who is betrothed to a girl may enjoy conjugal rights before the actual marriage takes place, for the purpose of testing mutual liking or dislike before it is too late, but may not live in the same hut with her.

If a married woman prove faithless to her husband, he may divorce her and send her back to her parents. The divorced woman may marry again, on condition that her new husband recoups, in money or buffaloes, the expenses of her first marriage. Widows are permitted to marry again.

Young men are not required to undergo any test of physical fitness before they are allowed to marry. The male children are also not circumcised.

On the death of a Toda, the corpse, dressed with a new putkūli and adorned with jewellery, is laid out in the hut. A lamp is kept burning in the hut, and camphor is used as a disinfectant. The news of the death is conveyed to other mands, the inhabitants of which come to pay their respects to the deceased. On entering the hut, they place their head to the head, and then their feet to the feet, of the corpse, and mourn in company with the relatives. On the day of death, none of the residents of the mands, or visitors from other villages, are allowed to eat food. On the next day, meals, cooked by the near relatives of the deceased, are served out in another hut. The near relatives are forbidden to partake of rice, milk, honey, or gram, until the funeral is over, but may eat rāgi, sāmāi, butter and ghee. When a man dies, a bow and arrow obtained from the Kotas, his walking stick, jaggery, rice, honey, cocoanuts, plantains, tobacco, a bamboo khāndi (measure), and cowries, with which to purchase food in the next world, are burned with him. When a woman dies, cooking and household utensils, jewellery, articles of food, thread and cowries are burned.

This Toda practice of burning household implements and articles of food affords another striking illustration of the doctrine of object-souls propounded by Dr. Tylor in his *Primitive Culture*, Vol. I, pp. 477-79; 481. Some savage tribes, who hold the doctrine of object-souls, not only ascribe personality and life to men and beasts, but also believe that things have souls. What we call inanimate objects—such as rivers, stones, trees, weapons and the like, are treated by them in the same way as living intelligent beings are treated by us, talked to, propitiated and punished for the harm they do. Under this impression they, very rationally, sacrifice household utensils, objects for personal use and adornment, weapons, articles of food, cowries, etc., in order to transmit the souls or spirits of these objects to the possession of the man's soul in the next world, so that they may be of use to him there, just as some races sacrifice human beings and animals at funerals in order to despatch their souls for the service of the soul of the deceased person.

Among the Todas there are two kinds of funeral—the one called the dry funeral (*kēdu*), and the other green funeral. In the *kēdu*, pieces of the skull of the deceased are reverently anointed with clarified butter and placed in a cloth spread on the ground. Then the men, and, after them, the women, make obeisance to these relics of the deceased, by kneeling down before the same and touching them with the forehead. Then a buffalo is sacrificed; after which the assembled men, women and children salute the dead beast by placing their heads between its horns, and weep and mourn in pairs. This brings the dry funeral to a close.

The green funeral is performed immediately after the death of a person. In this ceremony, too, the corpse is saluted by men, women and children with the same manifestations of grief as at the dry funeral. Thereafter a buffalo is sacrificed, and the corpse is placed, face upwards, with its feet resting on the forehead of the sacrificed animal. Then the assembled men and women again have a good cry to themselves. Thereafter the corpse is borne to the burning ground within the *shola*, or sacred grove, and burned. A portion of the skull is removed from the ashes, wrapped up with the hair in the bark of the *tūd* tree and carefully preserved until the celebration of the dry funeral. Then another buffalo* is sacrificed, and rice

* So wanton and wholesale is the destruction of buffaloes at Toda funerals that the Madras Government has recently passed orders restricting the number of animals to be sacrificed at a *kedu* (funeral). It has ruled that the number of animals killed at any one *kedu* shall be limited to two, whatever may be the number of Todas in connection with whose decease the ceremony is held. It is hoped that this executive order of the Government will put a stop to the wholesale cruel slaughter of buffaloes, which has been a crying evil in the Nilgiris.

and jaggery are distributed among the assembled men and women, who then disperse to their respective homes. With this the ceremony of the green funeral is concluded.

The Todas have only one purely religious ceremony, which is called *Kona Shastra*. This ceremonial is said to be performed once in four or five years for the purpose of propitiating the gods, so that they may bless the Todas with good luck and make their buffaloes yield a plentiful supply of milk. A round hole is dug in the ground, and filled with salt and water, which is drunk by the grown-up buffaloes, as also by a selected buffalo belonging to the mand which is celebrating the ceremony. The Toda men, who have been invited to be present on this festive occasion, are then fed—the ceremony being tabooed to the women. Then the priest (*vorzhāl*, or *pālikarpāl*), donning a black putkūli round the waist, slays the buffalo-calf by dealing it a blow on the head with a stick made from a bough of the sacred tūd tree (*Meliosma pungens*.) The assembled Todas then make obeisance to the sacrificed beast by placing their foreheads on its head. The flesh of the sacrificed animal is given to Kotas; but Brecks says that it is eaten by the celebrants themselves.

Among the Toda games and pastimes may be mentioned the *narthpimi*, in which a flat slab of stone is supported horizontally on two other slabs, fixed perpendicularly on the ground so as to form a narrow tunnel through which a man can just contrive to pass with difficulty. This game is played by two men, one of whom stations himself at a distance of about 30 yards, the other taking his stand about 60 yards away from the tunnel. The front man, doffing his cloth, runs as fast as his heels can carry him to the tunnel and is pursued by the “scratch” man, who tries to touch the other man’s feet before he has squeezed himself through the tunnel. Another game, called *ilāta*, very much resembles the English game of tip-cat. It is played with a bat like a broom-stick and a cylindrical piece of wood pointed at both ends. This piece of wood is propped up against a stone and struck with the bat. As it flies up off the stone, it is hit off to a distance with the bat, and caught or missed by the out-fields. A third game consists in raising a very heavy stone up to the shoulder, with a view to testing the strength of the man lifting it up.

When a Toda meets a Badaga, he bends down, and the Badaga, as a form of greeting and sign of superiority, places his hand on the top of the Toda’s head. When a Toda meets a Kota, the latter kneels down and raises the former’s feet to his head. When a Toda meets a Kurumbar, the latter bends forward, and the Toda places his hand on the Kurum-

bar's head. A Toda meeting an Irula is saluted in the same way as by a Kurumbar.

The next tribe anthropometrically measured by Dr. Edgar Thurston is the Kotas of the Nilgiris.

The Kotas. During the census of 1891, the Kotas numbered 1,201 (556 males and 645 females) against 1,062 (498 males and 564 females) at the census of 1881. The Kotas live in large communities, in seven villages, of which six are situated on the plateau and the remaining one is situated on the northern slope of the Nilgiris. Each of these Kota villages comprises thirty to sixty, or more, detached huts and rows of huts, arranged in streets. The huts are constructed of mud, brick, or stone, and roofed with thatch, or tiles, and divided into living and sleeping apartments. The floor is raised above the ground, and there is a verandah in front, with a seat on each side.

The Kotas have no caste, but are divided into *kēris*, or streets, *viz.*, *kīlkeri*, *mēlkēri* and *nadukēri*. The members of the different *kēris* may intermarry with each other, but people belonging to the same *kēri* cannot do so, as they are supposed to belong to the same family. The principal physical characteristics by which the Kotas may be differentiated from the Todas, are the following: "The most obvious distinguishing character is the great development of the hairy system in the Toda, though the Kota frequently has hair well developed on his chest and abdomen. The weight and chest-girth of the two tribes are approximately the same, but the mean Toda height is 6.7 cm. greater than that of the Kotas. Corresponding to a greater length of the upper extremities, the span of the arms (*i.e.*, the length from tip to tip of the middle finger with the arms extended at right angles to the body) is 6.7 cm. longer in the Toda than in the Kota, but the difference between height and span is exactly the same (5.4 cm.) in the Toda and the Kota. The Todas are broader-shouldered than the Kotas, and, though the former do far less manual labour than the latter (many of whom are blacksmiths), their hand grip, as tested by a Salter's dynamometer, is considerably (9lbs.) greater. The Kotas have broader hips, but a shorter and narrower foot than the Todas. Both Todas and Kotas are dolichocephalic. The cephalic breadth averages the same in the two tribes, but the length of the head is very slightly (.2 cm.) greater in the Toda. The Kota has a wider face with more prominent cheek bones, a greater bimalar breadth, a wider lower jaw, and more developed zygomatic arches. The Toda nose is slightly longer and broader than that of the Kotas. The height from the top of the head (vertex) to the chin is slightly less in the Kota than in the

Toda ; but corresponding to the greater length from the vertex to the tragus and the more developed frontal region, the facial angle (angle of Cuvier) of the Kota is in excess (3°) of that of the Toda."

The religion of the Kotas partakes more of the nature of fetishism than of anything else. According to Dr. Shortt, they are said to worship some rude image of wood or stone, a rock, or a tree in a secluded locality, and to offer sacrificial offerings to the same. But the recognised place of Kota worship in each village consists of a large square piece of ground, walled round with loose stones, three feet high, and containing in its middle two pent-shaped thatched sheds, open both before and behind, and supported by stone posts on which some rude circles and other figures are drawn. But in these places no images of any kind are to be found. These sheds, which are situated at a short distance from each other, are dedicated to the worship of Śiva and his consort Pārvatī, under the names of Kāmatarāya and Kālikai. Though in these rude temples no images of the aforesaid god and goddess are exhibited on ordinary occasions, yet their divine spirits are believed to permeate the whole of these structures. On the occasion of the annual ceremony, however, their deityships are represented by two thin, plain plates of silver, which are fixed to the upright posts of the temples.

The Kotas go to these temples once a month, on the day of the full-moon, and meditate on and worship their gods.

There is a very ancient tradition current among the Kotas to the effect that once upon a time Kāmatarāya, perspiring profusely, wiped off from his forehead three drops of perspiration and created out of them the three most ancient of the hill-tribes—the Todas, Kurumbas and Kotas. The Todas were told to subsist principally upon milk; the Kurumbas were allowed to eat the flesh of buffalo-calves, and the Kotas were ordered to eat anything they liked, not excepting carrion even. In recent times, the Kotas have added to their pantheon a new god, named Māgāli, who is supposed to cause outbreaks of cholera, and a goddess named Māriammā, to whose influence smallpox epidemics are said to be due. Whenever cholera breaks out in the Kota villages, special sacrifices are offered by the Kotas for the purpose of propitiating the wrath of the gods. Near the village of Kotagiri is a rude temple dedicated to the god Māgāli who is represented by an upright slab of stone only, and in whose honour a ceremony is held every year, in which some man becomes possessed by that god, and in that state announces to the assembled votaries the longed-for tidings that his deityship has arrived there. On this occasion a special priest (pūjāri) presents to the

god offerings of plantains and cocoanuts and sacrifices sheep and fowls to him.

The marriage customs of the Kotas are of a very simple nature. If a boy is desirous of marrying, his parents or his friends select a bride for him, subject of course to the consent of the girl's parents. Accompanied by both his parents, the boy goes to the house of his bride-elect, prostrates himself at the feet of his future father-in-law with a four-anna bit and, according to Breeks, also with a *bīrianhana* of gold. Thus the boy is betrothed to his wife-elect. Betrothal usually takes place when the girl is eight to ten years old. Before the marriage takes place, the bridegroom-elect, accompanied by his relatives, goes to a feast at the house of the bride; when a day is fixed for the celebration of the nuptial rites. On the appointed day, the bridegroom pays to the bride's father a dowry of from ten to fifty rupees and fetches the girl to his own house, where the wedding guests, who have come over with them, are treated to a feast. As a rule, girls get married when they are from twelve to sixteen years old, between which years they are said to attain the age of puberty. Among the Kotas widows are allowed to marry for the second time. The Kotas are, as a rule, monogamous; and polyandry is unknown among them. They can obtain divorce, subject to the consent of the village *pāñchāyat*, on the ground of incompatibility of temper, drunkenness or immorality.

When a married woman is known to be pregnant with her first child, her husband allows the hair of the head and face to grow long and leaves the nails of both hands unpared. When a woman is about to be delivered of a child, she is removed to a permanent hut called *vollūgūdi*, which is partitioned off into two compartments, one of which is used as a lying-in room, and the other for the temporary residence of women during the menstrual periods. After the birth of the child, the Kota woman has to remain in the *vollūgūdi* till the next full moon, and thereafter removes to another hut called *tēlulu*, where she has to remain for a further period of two months. After leaving the *vollūgūdi* the newborn child is fed with rice cooked in a specially manufactured clay vessel, on a fire kindled with the wood of a particular kind of jungle tree. When the woman leaves the *tēlulu*, the relatives are entertained with a feast, when the headman of the *khēri* gives the child a name which has been selected by its father. When the woman is about to return to her home after her temporary banishment therefrom, the house is purified with cowdung and water; and, before she is allowed to enter it, she has to drink a few drops of water given to her by the man who has named the child. One of the commonest

names of Kota women is Mādi, which is also one of the names of the goddess Kālikai; and the first male child is always dubbed with the name of Komuttan, which is a corrupt form of the name of the god Kāmatarāya.

The Kota funeral ceremonies very much resemble those of the Todas. When a man or woman is about to die, a gold coin is placed in the mouth. After death the corpse is laid out on a mat and covered with a cloth, its thumbs are tied together with a string, and the hands are placed on the chest. The relatives of the deceased, the pujāri and dēvādi, and the Kotas of the other villages, to whom the news of the death may have been communicated, come over to the house of the deceased and salute the corpse, head to head, and mourn over it. A roughly-made car (tēru), constructed of wood and decorated with cloths, red flags and long white streamers, is placed in front of the house of the deceased, round which the assembled Kotas dance to the strains of a Kota band, while the nearest relatives keep up the mourning. The corpse is then placed within the car and saluted by the assembled Kotas. A buffalo is then sacrificed, as a matter of routine. The corpse is then carried on a cot outside the village, and the car is also carried therewith. Then a buffalo is again sacrificed and after that the right hand of the corpse is placed on the dead beast's head. The carcase of the sacrificed animal is then saluted by all present and made over to the pariahs. From the jungle the corpse and the car are carried to the burning ground, where a funeral pyre is made, on which the corpse is laid, face upwards, and the car is then placed over it. The pyre is then set fire to and the body burned. Then tobacco, cheroots, cloths and grain are distributed to those present, and the funeral party then disperses.

In the month of December a dry funeral ceremony is performed in imitation of the Toda *bara kēdu*. Eight days before the date fixed for the ceremony, a dance takes place in front of the houses of the Kotas whose memorial rites are to be celebrated, and three days before the actual ceremony is performed, the Kotas of the neighbouring villages are invited to be present on the occasion. On the day fixed, the relatives of the dead Kotas have buffaloes ready for sacrifice, and place the skulls, which have remained unburied, wrapt in cloths on a cot. These relics of the deceased are then saluted by touching them with the head. They are then carried to the shola, or the sacred grove, where the buffaloes—one for each skull—are sacrificed. The skulls are then burned. The burning over, those who have been present for the occasion remain all night on the spot, where, on the following morning, a feast and dance take place. Finally, a dance is held in the village.

Once in every year the Kotas celebrate a great festival in

honor of their god Kāmatarāya, for the purpose of propitiating his deityship, so that he may bless them with a plentiful harvest and general prosperity. The feast commences on the first Monday after the new moon in January, and continues for a fortnight nearly, which is kept as a general holiday by this tribe, and is availed of by them, it is said, for the practice of much licentiousness and debauchery, much indecent dancing being indulged in by both men and women on this occasion. On the first day of the festival a fire is kindled by one of the priests in the temple and taken to the Nadukēri quarter of the village, where it is kept burning throughout the festival. Around this fire, the Kota men, women and adolescent boys and girls dance to the accompaniment of the weird music of their peculiar band. This dance is continued throughout the second, third, fourth and fifth day. On the sixth day the Kotas go to the jungle and collect bamboos and rattans for re-roofing their temples with, and on the seventh the temples are re-roofed and decorated, the dancing being as usual kept up during the night time. In the morning of the eighth day, the Kota villagers go a-begging to Badaga villages for doles of grain and ghee which, having been obtained, are cooked, placed in front of a temple, as a thanks offering to their swāmi, and, after the priests have eaten, are partaken of by them. On the ninth day dancing takes place again. On the eleventh and twelfth days a pantomimic representation of a Toda funeral-ceremony (kēdu) is gone through, in which men, clad in black clothes and with buffalo-horns on their heads, play the part of the sacrificial buffaloes. At the conclusion of the festival the pūjārīs, the dēvādi, and the *elite* of the Kota community go out hunting with bows and arrows, starting from the village at 1 A.M. and returning thither at 3 A.M. They are said to have shot bison during this nocturnal expedition. On their return to the village, a fire is kindled by means of fire-sticks, into which a piece of iron is put by the dēvādi, made red-hot and hammered by the pūjāri. The priests then offer up a final prayer to the swāmi, which brings the annual Kota festival to a close.

The Kotas have several games and pastimes, which are similar to those of the Todas. One of the Kota games consists in attempting to raise a heavy round stone from the ground to the shoulders. They have also a game which resembles the English tip-cat in many respects. In another game sides are chosen, of about ten each. One side take shots, with a ball made of cloth, at a brick propped against a wall, near which the other side stand. Each man is allowed three shots at the brick. If the brick is hit and falls over, one of the "outside" picks up the ball, and throws it at the other side, who run away and try to avoid being hit. If the ball touches one

of them, the side is put out, and the other side go in. The Kotas have several games which are played on boards on which several kinds of patterns are engraved. Illustrations of these are given in plate xxvii, page 200, of the first part of the bulletins under review. One of these games, called *hulikote*, bears a close similarity to the English game of fox and geese. In one form of this game, two tigers and twenty-five bulls, and, in another variety thereof, three tigers and fifteen bulls, play a prominent part, the object of the tigers being to kill all the bulls. There is yet another game, called *kotē*, which is played on a labyrinthiform pattern, or board, the object of the game being to get to the centre of the board.

There are several elements in the aboriginal population of the Nilgiris which represent the pastoral, agricultural and artisan stages of primitive civilization. The pastoral phase of early culture is represented by the Todas, and the artisan stage by the Kotas; while the Badagas typify the agricultural aspect thereof. The Badagas are said to be descended from the Kanarese, Hindus who migrated from the Mysore country probably about three centuries ago, and settled in the rocky fastnesses of the Nilgiris, owing to famine or political disturbances in their native country. Much plausibility is lent to this theory by the fact that the Badagas speak a language allied to the Kanarese. During the census operations of 1891 the Badagas numbered 29,613 persons, against 24,130 at the previous census.

In physique the typical Badaga is below middle height, smooth-skinned, and of slender build, and possesses narrow chest and shoulders. His complexion is lighter than that of the other hill-tribes.

The Badagas are divided into the six undermentioned septs:—

Udaya or (Wodeyar)	Lingayats	...	High caste.
Adhikāri	Do.	...	Do.
Kanaka	Do.	...	Do.
Hāruva	Saivites	...	Do.
Badaga	Do.	...	Do.
Toraya	Do.	...	Low caste.

Of these six septs, the Hāruvas, Adhikāris, Kanakas and Badagas may intermarry with each other; but the Udayas and Torayas are endogamous, being permitted to marry only within their own septs. The Hāruvas wear the Brāhmanical thread, whereas the Torayas form the lowest caste among the Badagas and perform menial work for the other septs. The Udayas, Hāruvas and Adhikāris are vegetarians; whereas the Kanakas, Badagas and Torayas partake of both vegetable and animal food.

The religious beliefs of the Badagas are of polytheistic and demonolatrous types. They not only worship a number of major gods and thirty-three crores of minor divinities, but also believe that the ills which human flesh is heir to are caused by devils. They worship, in common with other Hindu sects and the Todas, in all manner of shrines, from an insignificant jungle or road-side shrine to the big temple with gopurams at Karamadai. The images of their divinities are often fashioned in gold and silver after the human likeness, and sometimes in the shape of stone bulls and roughly-hewn boulders of stone, which are supposed to look after the welfare of the milch cows, and to which oblations of milk are given when a cow runs dry or refuses to yield the proper quantity of milk. The Badagas, like other aboriginal tribes, are very superstitious, believing implicitly in good and bad omens, among which may be mentioned the sight of two Brāhmans, a look at a jackal, or a milk-pot in front, all of which are considered auspicious; whereas a snake passing in front, a woman with dishevelled hair, a widow, or a single Brāhman going before, are said by them to prognosticate evil to the looker-on.

Badaga youths of the Lingāyat sect are invested with the linga or phallic emblem, which is the badge of their religion and tied round their necks. The investiture-ceremony is performed with much solemnity and attended with feasting and other jovialities. On this occasion, too, oblations of the milk of cows and buffaloes are offered to a rivulet. When a Badaga lad has attained adolescence, he is taught the art of milking buffaloes and kine, and thenceforth is permitted to enter the precincts of the hāgōtu, or dairy, which is tabooed to the female Badagas, who are not allowed to cross its threshold.

The marriage-ceremonies of the Badagas are very short and simple. Among the members of the Udaya clan, there is nothing in the nature of courtship; but the father selects the bride or bridegroom for his child. In the other septs a simple form of sexual selection is allowed; and betrothal is soon followed by marriage, which takes place on an auspicious day. The marriage-tie is not, however, really sealed and confirmed until the fifth month of the bride's first pregnancy, when the ceremony of *kanni-kattēdu* is performed and the marriage emblem is tied round the neck of the woman. If, in tying the emblem round the bride's neck, the husband gets the string entangled in her hair, he is fined for carelessness. When a Badaga girl attains puberty, she is tattooed on the forehead, with a needle dipped in the soot collected from a cooking-pot and mixed with oil, in order to notify to the Badaga swains the fact that she is now available for matrimonial purposes.

The funeral rites of the Badagas are very similar to those

of the Kotas. In the course of these ceremonies, an elder, taken his stand by the corpse, and offers up a prayer that the deceased may not be doomed to endure the purgatory of the infernal regions; that the sins committed by him during his earthly existence may be forgiven, and that his iniquities may be borne by a calf which is let loose in the jungle, and thenceforth not used for any work. The Badaga custom of dedicating a scape-calf is fraught with much interest and bears a striking similarity to the Levitical practice of dedicating a scape-goat. "But the goat on which the lot falls to be the scape-goat shall be presented alive before the Lord to make an atonement with him, and to let him go for a scape-goat in the wilderness, and the goat shall bear upon him all their iniquities unto a land not inhabited." (Lev. XVI, 10; 22).

The next tribe, which has been anthropologically studied, is the Irulas of the Nilgiris. Just as the Badagas are the fairest-complexioned, so the Irulas are the darkest-skinned of the Nilgiri tribes, the name Irula being derived from the Tamil word *irul*, which means darkness or blackness. The typical Irula is dark-skinned, with broad nose and high nasal index; but some of them have been found to be lighter-complexioned and to have narrow noses. The Irulas speak a corrupt form of Tamil.

They worship Vishnu under the designation of Rangaswāmi, to whom they offer puja in their own rude shrines, or at the Hindu Temple at Karamada, where Brahman priests officiate. According to Breeks, an Irula pujari is said to live close by the temples, and ring a bell when he offers puja to the gods. He paints his forehead with the distinguishing mark of the Vaishnavites. The son succeeds the father in the discharge of these priestly functions, for which he is remunerated by offerings of fruit and milk from the worshippers, and also by a fee of two annas paid by each of the Irula villages. There is also a temple at Kallampalla in the Sattiyamangalam taluk, north of Rangaswāmi's peak, which is said to be dedicated to the god Siva, of which the pujāri is said to wear the Siva mark. In this latter temple is a stone which is worshipped by the Irulas under the designation of Mariamma, the dread goddess of small-pox, who is said to be an incarnation of Durga, and to whom sheep are offered by way of sacrifice.

The Irulas live in villages and earn their subsistence mostly by cultivation, and also by working as labourers in the coffee plantations. They do not partake of the flesh of either buffaloes or cattle, but will eat sheep, goat, fowls, deer, pig, hares, jungle-fowl, pigeons and quail. On Saturdays or Mondays they will not do any work in connection with cultivation. At the sowing season, the Badagas bring cocoanuts, plantains,

milk and ghee, and give them to the Irulas, who, after offering the same to their swāmi, return them to the former.

The Irulas are monogamous, and their marriage ceremonies are very simple. When a young man is desirous of marrying, he selects a girl for himself and presents her parents with a sum of money, averaging from Rs. 13 to 25, as dowry. There is no marriage-tāli. On the day on which the marriage is celebrated, guests are invited to be present on the occasion and entertained at a feast in which a sheep is killed. They then present the bridegroom with sums varying from four to eight annas, and he ties up the same in a cloth and goes to the bride's house to fetch her to his own home. In the event of the wife proving barren, her husband is permitted to take unto himself a second spouse. The widows are allowed to marry a second time.

The Irulas have some quaint and curious funeral ceremonies. On the death of an Irula, two Kurumbas come to the village, one of whom shaves the head of the other. The shaved man is then fed and presented with a cloth, which he ties round his head. This rite is supposed to bring good luck to the deceased in the next world. So long as the corpse remains in the house, men and women dance outside it to the weird strains of the Irula band. The corpse is then taken to the burial-ground, of which there is one in each village. A circular pit is dug, from the bottom of which a chamber is excavated, and in this the dead body, clad in its own clothes, jewellery and a new cloth, is placed, in a sitting posture, with the legs crossed tailor-wise, together with a lamp and some grain. The grave is then filled up and its position marked by a stone.

An annual ceremony is said to be performed in commemoration of the deceased. Some oil and a lamp are purchased, and rice is cooked in the village. These are then taken to the shrine at the burial-ground, where a pujārī, with three white marks on his forehead, places some of the rice and pours a little of the oil on the grave-stone and performs some puja.

The last of the aboriginal tribes of the Nilgiris whose physical characteristics, traditions, religions, manners and customs have been scientifically investigated by Dr. Edgar Thurston, are the Paniyans of Malabar. They are a dark-skinned tribe, short in stature, with of broad noses and curly hair, and having their habitat in the Wynaad and those portions of the Ernād, Calicut, Kurumbranād and Kottayam taluks of Malabar which skirt the foot of the Eastern Ghats, and the Mudanād, Cherangōd, and Namblakōd amshams of the Nilgiri district. The average height of the men has been found to be 157·4 cm. and that of the women 146 cm. The men have very long hands and feet. The average length of the

latter (25 cm.), in fact, exceeds the average breadth of the hips (24.3 cm.) by .7 cm.—a difference in favour of the foot greater than in any of the other tribes investigated by Dr. Thurston. The average distance from the middle finger to the patella is (in men) only 4.6 cm. relative to stature=100, and approaches very nearly to the recorded results of measurement of long-limbed African Negroes. It is commonly believed, on the strength of their Negroid appearance, that the Paniyans are of African origin and are descended from ancestors who were wrecked on the Malabar Coast. But this belief falls to the ground on investigation.

During the census of 1891 the Paniyans were found to number 33,282 persons. In Malabar the status of the Paniyans is something like that of slaves, for every Paniyan is some landlord's "man"; and, though he is quite at liberty to leave his master, he is at once traced and steps are taken to ensure that he does not get employment anywhere. In the fifties, when European planters first began to settle in the Wynaad, they bought the land with the Paniyans living on it, who were, to all intents and purposes, slaves of the landowners. The word Paniyan signifies a labourer, and it is therefore believed that their original occupation was agriculture, as it is, to a large extent, at the present day. Many of them, however, work as labourers on coffee estates and on the rice-plantations. They speak a corrupt form of the Malayalam language in a curious nasal sing-song tone, which it is very difficult to imitate; but the Paniyans who are employed on coffee-estates can speak Kanarese also.

Of religious ideas and beliefs, the Paniyans have very little, and that little even is of a very crude and debased type. They not only believe in the power of devils and demons to work them evil, but also especially reverence the god of the jungles, Kād Bagavādi, or, according to another version, a deity called Kūli, a malignant and terrible being of neither sex, who is often represented by a stone placed under a tree, or sometimes by a cairn of stones. The Paniyans present, as offerings to their sāmī, rice boiled in the husk, roasted and pounded, half a cocoanut, and small coins. They also hold the banyan and a lofty tree of the fig tribe in much reverence, as they consider them to be the abodes of evil spirits. They would not so much as touch, far less cut, these trees; and any one violating these prohibitions is believed to be taken ill.

There is a curious belief current among the Paniyans, that some of them can metamorphose themselves into the form of animals. It is said that, if any one of these specially gifted persons is desirous of having access to a woman whom

he is lusting after, he pays a visit to her house at night with a hollow bamboo and encircles her dwelling-place by going round it thrice. The woman then comes out; and the man, assuming the shape of a bull or dog, encompasses his wicked design. It is believed that, in such a case, the woman dies in the course of two or three days.

The Paniyans are, as a general rule, monogamous; but they may take to themselves as many wives as they can afford to maintain. When a young man is desirous of marrying, his parents select a bride for him. If the circumstances of the bridegroom-elect be somewhat straitened, he has to take a faggot of firewood to the house of his *fiancée* every day for a period of six months. The marriage-ceremonies are of a very simple nature. The ceremony is performed by a Paniyan Chemi (a corruption of Janmi). The bridegroom makes over a present of sixteen fanams (coins) and some new cloths to the Chemi, who hands the same over to the bride's parents. A feast is then prepared, at which the Panichis, or the Paniyan women, dance to the music of drum and pipe. Then the bridegroom's female relatives tie the *tāli*, or marriage-badge, round the bride's neck, and deck her with such rude ornaments as they can afford. The Chemi, or priest, then seals the marriage-knot by pouring water over the head and feet of the young couple. A Paniyan can marry neither two sisters, nor his deceased wife's sister. Widows are allowed to re-marry. When any body is found guilty of adultery, the guilty party has to pay a fine of sixteen fanams, which is the usual marriage fee, and a sum equal to the expenses of the wedding. No ceremony is performed on the occasion of the birth of children.

When a Paniyan dies, a pit, four or five feet deep and large enough to receive the body to be buried, is dug, due north and south, on a hill near the village. At the bottom of this excavation the earth is scooped out from the western side, on a level with the floor, throughout the length of the grave, so as to form a receptacle for the corpse, which, placed on a mat, is laid therein, upon its left side, with the head pointing to the south and the feet to the north. After a little cooked rice has been placed in the grave for the use of the departed spirit, the mat, which has been made wide enough for the purpose, is folded up and tucked in under the roof of the cavity, and the trench is then filled up. For seven days after death a little rice gruel is placed daily at a distance of from fifty to a hundred yards from the grave by the Chemi, who claps his hands as a signal to the evil spirits in the vicinity, who, assuming the form of a pair of crows, are believed to partake of this food which is hence called *kāka conji*, or

crow's rice. Among the *noombu*, or mourning ceremonies, observed by the Paniyans, are the *Ti polay*, which is performed seven days after death; the *Kāka polay*, or *Karuvelli*, which is performed for three consecutive years in the month of Magaram (January-February), and the *Matham polay*, held once in every three or four years, when possible, in commemoration of those who are held in particular reverence. On all these occasions the Chemi officiates as a sort of master of the ceremonies. As these ceremonies differ from each other but little, an idea may be formed of all of them from the following description of the *Kāka polay*:—

In the month of Magaram the *noombu karrans* (mourners), or those who have lost relatives, begin to cook and partake of food in a pandal or shed which is at a distance from the village, but otherwise attend to their daily business as usual. They perform ablutions and eat meals twice a day, but have to abstain from eating meat or fish during this period. On the last day of the month, the Chemi makes arrangements for the performance of the ceremony which brings the mourning period to a close. The mourners, who have to fast from daybreak, take up their position in the pandal; when the Chemi, holding on his crossed arms two winnowing sieves, each containing a seer or two of rice, walks round thrice, and finally deposits the sieves in the middle of the pandal. Then a person called the Patalykaran, who performs the same functions of an oracle as the Komaran, or Villichipād, does among the Hindus, ties a new cloth (*mundu*) round his head, besmears his body and arms with a paste made of riceflour and ghee and then enters the pandal with his legs bejinged with bells, the jingling of which is supposed to exorcise away the attendant evil spirits (*payan mar*). Advancing with short steps and rolling his eyes, he staggers to and fro, brandishes two small sticks with his hands and works himself up into a frenzied state as if he had been possessed by the god, the mourners meanwhile crying out and asking why the dead have been taken away from them. The performer, shivering with convulsive twitchings, staggers more violently than before, and falls down on the ground, or supports himself by holding one of the posts of the pandal, while he gasps out disjointed sentences which are supposed to be the inspired utterances of the god. The mourners now make obeisance and are marked on the forehead with the paste of riceflour and ghee. This being over, a mat is spread for the accommodation of the headmen and Chemi. Then the Patalykaran, from whose legs the bells had been removed and put with the rice in the sieves, takes these in his hands and, shaking them as he speaks, commences to

chant a funeral oration, which he continues till daybreak. In the meantime, food having been cooked and partaken of by all those present, except the mourners, dancing is kept up round the central group till dawn, when the pandal is pulled down, thus bringing the kāka polay to a conclusion. Those who have been fasting make up for lost time; and the relatives, who have allowed their hair to grow long, shave.

One of the favourite games of the Paniyans is swinging. A long strip of cane is suspended from the branch of a tree, and a cross-bar fixed to its lower end. A boy sits on the bar and swings himself in all directions. Another game consists in spinning round an upright pole. The upright pole with its upper end tapering to a point is planted in the ground, on the point of which a bar, twelve to fourteen feet long, is balanced. At the end of the horizontal bar, a boy hangs, and touching the ground with the feet, spins himself round.

Besides the aforesaid five aboriginal tribes of the Nilgiris, the Brāhmans of the poorer classes, Kammálans, Pallis, and Pariahs of the Madras City, have also been anthropometrically examined.

The Brāhmans who were examined mostly belonged to the Mádhava, Smarta, Sólíya, and Vaishnava clans and followed the occupations of agriculturist, clerk, gurú, mendicant, and schoolmaster. The Brāhmans. Ethnologists are of opinion that these Brāhmans of Southern India are not of pure Aryan descent, but have an admixture of Aryan and Dravidian blood in their veins. On their first arrival, the Brāhmans of the purest Aryan descent were not overpunctilious about contracting alliances with the women of the country, just as the Nambúdiri Brāhmans do at the present day; and the children born of such unions were regarded as Brāhmans of an inferior class. These Brāhmans of mixed descent are, even at the present day, regarded as lower in the social scale, and are not allowed to mix on terms of equality with the Brāhmans of the purest Aryan descent.

The Kammálans follow the occupations of blacksmiths, carpenters, stonemasons, and goldsmiths. The Kammálans. The name Kammála is a generic term applied to the five artisan castes, *viz.*, (1) Tattān, or Kamsala (goldsmith); (2) Kannán, or Kanchara (brazier); (3) Kollan, or Kammara (blacksmith); (4) Tac'chan, or Vadra (carpenter); and (5) Kal Tac'chan, or Silpi (stonemason). There is a tradition current among the Kammálas to the effect that they are descended from Visvakarma, the divine architect of the Hindus; and in many parts of the country, they call themselves Visva Brāhmans and claim a status equal to that of the real Brāhmans.

There is epigraphic evidence extant which leaves no room for doubt that so far back as the eleventh century of the Christian era, the Kammálans were regarded as belonging to a very inferior caste; for, like the Paraiyans, Pallans, &c., they, too, were allowed to live aloof from the rest of the village community, in a separate quarter, or *chèri*, of the village. The usual title of Kammálans is *Achári*, and some also style themselves *Pattan*, which corresponds to Bhatta, which is the usual patronymic of the Bráhmans. They also wear the sacred thread. The five main septs into which they are sub-divided, do not intermarry with each other. They have priests of their own, and do not allow even Bráhmans to perform their ceremonies. Girls are married before puberty; and widow-marriage is strictly prohibited. They are forbidden to partake of meat and wine; but this rule is more honoured in the breach than in the observance. They sometimes burn the dead and sometimes bury them in a sitting posture.

The Pallis, Vanniyans, or Padaiyáchis inhabit almost all the Tamil districts and earn their living by working as cultivators, fitters, gardeners, hand-cart-draggers, masons, polishers and sawyers. They arrogate to themselves the status of the Kshatriyas; but their pretensions on this score are absurd and utterly unfounded. After the overthrow of the Pallava dynasty, the Pallis were reduced to the position of agricultural labourers under the Vallálas; and it is only since the establishment of British rule in India that they have asserted their claims to a higher status than that which is their birthright. They do not wear the sacred thread, and some of them employ Bráhmans to minister to their spiritual and ceremonial requirements. Their girls are usually married after they have attained puberty; and widows are allowed to re-marry. They both burn and bury the dead. Their ordinary cognomen is Kavandan, or Padaiyáchi; but those among them who aspire to a higher status in the social scale style themselves "Náyakkan."

The Paraiyans, or Pariahs, of the Tamil country number, according to the returns of the census of 1891, over two million souls. They follow the occupations of coachmen, coolies, dressing-boys, fish-sellers, gardeners and horse-keepers. In the earliest times, they must have held a higher status in the social scale, for traces of their superior position and influence survive even at the present day in certain privileges which are still enjoyed by them, as will appear from the following extract:—

"It is well-known that the servile castes in Southern India once held far higher positions, and were, indeed, masters of the land on the arrival of the Bráhmanical caste. Many

curious vestiges of their ancient power still survive in the shape of certain privileges, which are jealously cherished, and, their origin being forgotten, are misunderstood. These privileges are remarkable instances of survivals from an extinct order of society. Shadows of long-departed supremacy, bearing witness to a period when the present haughty high-caste races were suppliants before the ancestors of degraded classes, whose touch is now regarded as pollution. At Mélkotta, the chief seat of the followers of Rámánuja-áchárya, and at the Bráhmaṇ Temple at Bailur, the Holeyars, or Pareyars, have the right of entering the temple on three days in the year specially set apart for them. In the great festival of Siva at Tiruválúr in Tanjore, the headman of the Pareyars is mounted on the elephant with the god, and carries his *chauri*. In Madras, at the annual festival of the goddess of Black Town, when a *táli* is tied round the neck of the idol in the name of the entire community, a Pareyar is chosen to represent the bridegroom."

The Pariahs have been but little influenced by Bráhmaṇical doctrines and usages, though, as regards ceremonial rites, they have been to a certain extent affected by the latter. They are nominally Saivites, but in reality they worship demons and beings of that ilk. They usually employ Valluvas to officiate as their priests. Among them, girls are usually married after they have attained puberty. A Pariah husband can easily divorce his wife by sending her away whenever he likes, and the wife, on her part, can easily dissolve the marriage-bond by simply returning the *táli*. In such cases the husband has the care of the children born of the union, or contributes for their maintenance. Widows are, as a general rule, allowed to marry a second time. The Pariahs usually bury their dead.

The distinguishing characteristics of the Bráhmaṇs, Kammálans, Pallis and Pariahs, as deduced from their measurements, may be stated as follows: The Bráhmaṇs are characterised by the greatest weight, greatest breadth of head, greatest distance from the middle finger to the patella, and the longest hand. The Kammálans are distinguishable from the other three classes by the shortness of their stature, hand and foot; and the Pallis and Pariahs are characterised by the close relation of their weight, height, difference between span and height, distance from the middle finger to the patella, and length of hand.

The average heights of the principal tribes and castes, anthropometrically investigated by Dr. Edgar Thurston, are shown in the following table:—

(a). Very tall, 170 cm. and upwards.

Nil.

(b). Above middle height, 170 to 165 cm.

Todas 169'6

(c). Below middle height, 165 to 160 cm.

Badagas	... 164.1
Kotas ...	... 162.9
Brâhmans (Madras City)	162.5
Pallis ...	... 162.5
Tamil Pariahs	.. 161.9

(d). Low stature below 160 cm.

Irulas ...	.. 159.8
Kammâlans	... 159.7
Paniyans	... 157.4

The Todas, according to these measurements, possess approximately the same stature as the Irish (169.7 cm.), and, to quote Dr. Thurston's words, "just miss the dignity of being included with the English among the very tall races of the world." Between the Todas and the next tallest class, the Badagas, there is a well-defined gap of 5.5 cm. But there is a gradual decrease in stature from the Badagas to the Pariahs. There is, however, a gap of 2.1 cm. between the Pariahs, who are the lowest representatives of middle height, and the Irulas, who are the tallest among the peoples of low stature. Among the classes of middle height, the uniformity of the height of the Brâhmans and the Pallis is noteworthy. So also is the presence of the Kammâlans among the tribes possessed of low stature, amid the humble environment of the Irulas and the Paniyans.

The length of the upper extremities, in the tribes and castes above referred to, relative to stature, as ascertained by the determination of the distance from the tip of the middle finger to the top of the knee-cap (patella), when the subject is at attention with the extensor muscles of the thigh relaxed, is shown by the following table :—

	Average.	Average relative to stature = 100.
Badagas ...	... 12.2	7.4
Pattar Brâhmans	... 11.3	6.9
Irulas ...	... 10.7	6.7
Kotas ...	... 10.7	6.6
Tamil Brâhmans	... 10.1	6.2
Tamil Pariahs	... 9.4	5.8
Pallis ...	... 9.5	5.8
Kammâlans	... 8.4	5.3
Todas ..	... 9	5.3
Paniyans ...	... 7.3	4.4

The more the distance diminishes, the greater is the length of the upper extremities. The arm then is shortest in the Badagas, and longest in the short, broad-nosed Paniyans, who approach the Negro average (4.37).

Arranging these tribes and castes in sequence, according to the cephalic index, that is to say, the ratio of the length to the breadth of the head, the results may be stated as follows :—

Dolichocephalic (of which the cephalic index is 75 and under.)

Badagas	...	...	...	...	71.7
Pallis	...	...	...	...	73
Todas	...	...	...	...	73.1
Tamil Pariahs	...	...	...	...	73.6
Paniyans	...	...	...	...	74
Kotas	...	...	...	...	74.1
Pattar Brâhmans	...	...	...	...	74.5
Kammâlans	...	...	...	...	75

Sub-dolichocephalic (of which the cephalic index is 75.01 to 77.77).

Brâhmans (Madras City)	76.5
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It is clear from the foregoing statement that the dolichocephalic head is the prevailing type of Southern India.

Another very important basis of classification of, and aid to the elucidation of the origin of, castes and tribes is the nasal index or the relation of the height of the nose, measured from the under surface (not the tip), to the breadth measured across the widest part of the nostrils when at rest. In the following statement are classified the castes and tribes mentioned above, according to the range of their nasal indices, *i.e.*, the difference between the maximum and minimum recorded in each case :—

10—20.

Badagas	...	...	...	...	15.7
Todas	...	...	...	...	17.9
Kotas	...	...	...	...	18.9

20—30.

Paniyans	...	...	...	...	24.9
Kammâlans	...	...	...	...	27.6
Irulas	...	...	...	...	27.7

30—40.

Pattar Brâhmans	...	...	...	...	30.1
Pallis	...	...	...	...	34.3
Brâhmans (Madras City)	...	...	...	...	35.1
Tamil Pariahs	...	...	...	...	39

The most noteworthy fact, as will appear from the aforesaid statement, is that the tribes whose nasal indices are least subject to variation, are the Badagas, Todas and Kotas, who inhabit the plateau of the Nilgiri Hills; and that those whose nasal indices have the greatest variation (exceeding 30), are a group of Tamil classes made up of Brâhmans, Pallis, and Pariahs of Madras City and the Pattar Brâhmans descended from east-coast Tamil Brâhmans.

The bulletins under review are only the initial issues of a series which it is proposed to publish from time to time, embodying in detail the results of an anthropological and ethnographical survey of the various tribes and castes which inhabit Southern India. manifold are the difficulties which beset anthropological research among savage tribes and ignorant, superstitious peoples. These rude, unlettered folk are quite incapable of appreciating the motives with which they are measured, and, more often than not, misconstrue them as proceeding from a sinister purpose. The anthropologist has often to exercise a good deal of tact and patience for the purpose of disabusing them of their suspicious notions, and sometimes to coax them, in cases of sullen recalcitrance, even with presents of money, eatables and tobacco, into yielding to his wishes and subjecting themselves to examination.

Difficulties such as these often stood in the way of Dr. Thurston, who, for instance, says that none of the Paniyan women could be persuaded to allow him to measure them, as they believed that he had come there for the purpose of securing and stuffing the finest specimens among them for the Madras Museum. Similarly, the Muppas of the Wynaad would not allow him to examine them, and they refused under the impression that he had come for the purpose of enlisting the strongest men among their community as soldiers. Another man who was "wanted" by the Police for some crime committed long ago, came to be measured, but absolutely refused to submit to the operation, thinking that the height-measuring standard was the gallows. Nor would he allow himself to be photographed, as he was afraid that his photograph might be used for the purpose of criminal identification.

All these difficulties, however, were successfully overcome by Dr. Edgar Thurston; and the results achieved by him are not only highly interesting, but also of great scientific value, inasmuch as they are calculated to throw a flood of light on doubtful problems connected with the anthropology and ethnography of the tribes and castes investigated by him.

SARAT CHANDRA MITRA.

HUTWA :
The 18th June 1897. }

ART. IX.—TRANSLITERAL *versus* PHONETIC
ROMANISATION.

WHEN a people speaking a particular language and using a particular character for the representation of the sounds of that language come to have intercourse with another people speaking a different language and writing it in a different character, the writing of proper names current among each of the two peoples in the character used by the other becomes an absolute necessity. Besides proper names, certain words belonging to either language, to which correspond no existing words in the other, have likewise to be adopted in this other language and written in the character used in writing it. When Europeans of different nationalities—Portuguese, English, French, Dutch and Danish—came to have intercourse with India, there arose the necessity of writing Indian proper names in the Roman character, which is the character used in common by all the nations of Western Europe and their off-shoots in other parts of the world, and also of writing European proper names in the different characters in use in India. Besides proper names, a number of Portuguese words, such as 'padre' and 'lielam,' came to be Indianised. The process of Indianising English words still continues, as does, to a smaller extent, the reverse process of Anglicising Indian words.

During the earlier stages of intercourse between Europeans and Indians, the written forms of the languages of India were not so much an object of concern to Europeans as the spoken forms of these languages. The English conquest, again, of India drove almost entirely out of the country the other European languages, and the consequence was that all sorts of Indian proper names appeared before the world in an Anglicised garb. Now, Englishmen, though they use the Roman alphabet, give to certain letters of that alphabet powers different from those that are properly theirs, and so Indian proper names, as pronounced by Englishmen resident in India, have come to be written in the Roman character after the English way of using that character. Hindústání being the dominant vernacular tongue in India, and the one best known to the ruling English race, proper names current even outside the area of Hindústán proper have come to be Anglicised through their Hindústání forms. Thus we have Calcutta for Kalkattá, Burdwan for Bardwán, Mookerjea for Mukurjiá and Dutt for Datt, the corresponding current (not written) Bangáli names being Kōlketá, Baddōmán (or, after the written name, Bardhōmán), Mukurje and Dattō.

When Englishmen and other Europeans took to studying Oriental languages in a scholarly way, the way being led by that eminent English Orientalist, Sir William Jones, it was but natural that a scholarly method of representing the sounds of Oriental tongues should take the place of the rough and ready English method. Sir William Jones himself devised a scholarly system of Roman transliteration, and this system has formed the basis of all other systems subsequently adopted.

If all Oriental languages were phonetically written, transliteration, in respect of them, into the Roman character, would be an easy matter enough, and would give rise to no sort of practical inconvenience. It so happens, however, that Bangálí and other Oriental languages are not phonetically written. Their system of writing is 'historical,' as the phrase goes, *i.e.*, non-phonetic in a large measure. In fact, Bangálí writing, though not quite so non-phonetic as English writing is, is non-phonetic in no stinted measure for all that. Transliteration here is weighted with the heavy disadvantage that those for whose benefit the process is mainly intended, namely, persons ignorant of, or but imperfectly acquainted with, the Bangálí graphic system, are in a large measure mystified by it, and not enlightened. The following concrete examples will make this clear: To one ignorant of written Bangálí, or having only a slight knowledge of it, দেয় (due) and দেয় (gives), written exactly alike but pronounced very differently, would be a tremendous puzzle, if presented in a transliterated Roman form. The first দেয় would, after the Sanskrit देय, be transliterated *deya*. The second is, letter for letter, the same as the first, and according to current practice, would have to be transliterated just in the same way, though it varies vastly in sound. It is monosyllabic, to begin with, while the other is dissyllabic; and it is sounded, *dæ* (*a* in the diphthong here not having the sound it has in Latin, but that of *a* in the English word 'man'), while the other is sounded in Bangálí as *de-a*, which is not exactly the same as the corresponding Sanskrit sound *de-ya*. The Sanskrit दक्षिण is appropriately transliterated *dakṣiṇa*. But how is the Bangálí দক্ষিণ, which is the Bangálí transliterated form of दक्षिणा though in sound a good deal unlike it, to be Romanised? Romanised phonetically, it would be *dökkhin*; for that is its sound. By a well established convention in Bangálí writing, ক্ষ, medial or final, has the sound of *kkh*, while ক initial has the sound of *kh*. Another instance in point is the Bangálí word লক্ষ্মী, which is the Sanskrit लक्ष्मी transliterated into the Bangálí character; but, while the latter is

sounded lakshmí, the latter is usually sounded lökkihí, even the veriest pedant of a Pandit in a village school carrying it no nearer to the Sanskrit sound than lökkihín*. The word ব্রাহ্মণ will be my closing example. It is pronounced Brámmhan by those who aim at correctness, but ordinarily Brāmbhan, while the corresponding Sanskrit word ब्राह्मण is pronounced Bráhmaṇa.

Again, the set of Roman characters, including those bearing diacritical marks, used in transliterating Sanskrit words, while superfluous for Bangálí in some cases, is deficient in certain others. The superfluities need not here be pointed out, for corresponding superfluous characters are used in Bangálí writing. The deficiencies, however, demand notice, for the duplicate or triplicate function performed by certain Bangálí characters cannot well be assigned to their accepted Roman analogues. The vowel অ has two distinct sounds, namely, the usual long sound, as in the inherent অ of জ in জল (the short ঞ sound as in the inherent ঞ of জ in the Hindī word जल being wanting in Bangálí), and the short o sound, as that of the inherent অ in হরি. This short sound, again, is not exactly the short sound of ও in গোল, but is slightly different, as is disclosed by a comparison of the sound of ও in গোল (round) and that of the inherent অ of গ in গলে or গলিয়া (being liquefied). The vowel আ, again, has, in addition to its ordinary long sound, as in কাল (time), a slightly different sound, as in কাল (to-morrow or yesterday). এ, besides having two clearly distinct sounds, as (1) in এবং or দেশ and as (2) in এক or দেখা, has a third sound which is slightly different from that of এ in এবং or দেশ. This sound is the sound of the first এ in মেজে (floor), as distinct from that of the two এ's in মেজে (on table). The consonant চ has two distinct sounds, that of চ in পাঁচ দিন and that of চ in পাঁচ টাকা. This second sound is common in East Bengal, as is the z sound, which is not properly represented by any Bangálí character.

Transliteration, then, as applied at present to Bangálí largely, non-phonetically written as it is, and in characters which have come to be transcribed into Roman characters after a certain recognised method, is attended with certain serious drawbacks. The object of writing being the representation of sounds as they are uttered by the human voice, every system of writing that does not exactly represent words as they are spoken, must be held objectionable, as throwing unnecessary difficulties in the way of those who have to learn to read and write. The earliest

* The ñ here is put for the nasal n of the French word mon.

kind of alphabetic writing could not have been other than phonetic. Among modern cultivated languages, Italian, at any rate, is phonetically written. It has been the misfortune, however, of many languages, English and Bangálí among the rest, that, after the sounds of words had been modified, owing to certain irresistible tendencies of speech, their spelling, as fixed in some particular period of the literary history of the peoples speaking them, has persisted. These languages have been thus saddled with what is called 'historical spelling'; a misnomer, by the way, for the word 'historical' does not here apply to the entire literary history of a people, but only to some particular period of such history, that is, the period when the fixation of the spelling that continues down to the present day took place. 'A historical atlas' does not give territorial limits as they exist at any particular time; but shows the successive changes that such limits have undergone down to the date of publication of the atlas. 'Historical,' in 'historical spelling,' then, bears a sense different from that of 'historical' in 'historical atlas.' A change from non-phonetic to phonetic spelling in respect of any language would be a notable event in the history of the people speaking that language, in that it would make their spelling an up-to-date piece of business.

Spelling reform movements have been going on in England and in France, and, it may be, in other countries also, but nowhere can there be any likelihood of immediate success, for the incubus of 'historical spelling' has its support in the prepossessions of the learned; in the natural attachment of the human mind to an order of things that has lasted long; in the mental inertness of the mass of mankind, which indisposes them to have the existing order of things disturbed in any way; in the pecuniary interests of booksellers, bookowners and printers, and, above all, in the fact that natives born to a historically written language have not to learn the sounds of words in that language through their spelling, as foreigners have to do. If English children had to learn the sounds of words like 'night' and 'sign' through their spelling, the English people would have revolted against their monstrous spelling system long ago. It is greatly to be regretted that English, the language of a race which, besides being politically, industrially and commercially the foremost race in the world, is intellectually one of the three foremost among the races of men—a language that appears destined, at no very distant date, to become the cosmopolitan tongue among civilised men in fuller measure than French has ever been—should continue to be spelt in so abominably bad a way.

If, in such rapidly progressive countries as England and France, the move towards phonetic writing makes such small

progress, it would be absurd to suppose that in slow-moving India there could be any ready acceptance of phonetic, in lieu of 'historical,' writing. Assuming, then, Hindústání in its two phases, Urdú and Hindí, and Bangálí and Uriyá, to continue to be written as they are at present, the question would be whether a close system of Roman transliteration should be adopted in respect of them, or whether words and names, as they are sounded in them, should be phonetically represented in the Roman character?

The evils of transliteration as applied to Bangálí have already been touched upon. It is time now to speak of Hindústání. The Urdú phase of Hindústání usually appropriates to itself the name of Hindústání. This is illegitimate. For the sake of precision, the Urdú phase may well be called Urdú-Hindústání, it seems, and the Hindí phase, Hindí-Hindústání. Alone among the Indian vernaculars, Urdú is now largely printed and written in the Roman character, and proposals have even been made for the installation of this character in place of the Persian in Indian courts of law, though as yet without success. There is good reason, however, for believing that ultimately the Persian character must give way before the Roman, which, besides being neutral as between the Persian, peculiar to the Musalman minority, and the Nágarí (in its various forms), peculiar to the Hindu majority, has the crowning recommendation of being the character used by the ruling English race. Hindústání-speaking Musalmans, though much less numerous than Hindústání-speaking Hindus, have much greater cohesion among themselves, and wield, besides, a social and political preponderance which has come to them partly through racial characteristics, but far more through political supremacy exercised for hundreds of years. The preponderant social and political position of Musalmans in Upper India, though it is likely to be daily weakened under the *régime* of open competition and no favour as between Musalman and Hindu that characterises the English *Ráj*, must long continue to be a factor to be counted with. Any attempt, in the North-Western Provinces and Oudh, to displace the Persian character by the Devanágari, or any Káithí, or Mahájani form of Nágarí, would call forth powerful, persistent and bitter opposition. The example of Bihar would be delusive; for in Bihar the Musalman element is far less dominant than further west, and even in Bihar there has been opposition. In the Punjab, again, where the Musalmans form the majority of the population, they are masters of the situation. No form of Nágarí, therefore, is in a position to drive the Persian character out of Indian courts of law as the State-recognised character for Hindústání-writing. If the Persian character

is to be driven out, it is to be driven out only by the Roman. The present imperial character alone can dethrone the old imperial character. Indian Musalmans cannot, after all, reasonably object to Roman Hindústání taking the place, in public business, of Hindústání written in the Persian character. The process of Romanisation would be only analogous to their own process of Persianisation. As the ruling class in former days, they sought to make things convenient for themselves. As the ruling class at the present day, why should not the English in India follow suit? Why should they not rid themselves of the heavy tax upon their time and attention which learning to read and write Urdú in the Persian character involves?

How heavy this tax is, can be rightly estimated only by non-Hindústánís who have addressed themselves to the task of learning to read and write Urdú. Maulavis, I can say from personal knowledge, fail to read cursive Urdú writing satisfactorily, and, where Maulavis fail, Europeans can hope to succeed only after a vast expenditure of effort. That Roman Urdú, in place of Persian Urdú, would greatly facilitate the acquisition of this language by Europeans, and largely facilitate thereby the carrying on of administrative, judicial, and military business in India, can admit of no doubt whatever. The time may not be ripe yet for the Roman character to supplant the Persian, as also the newly installed Káithí Nágarí of Bihar, in our courts of law; but the very existence of Roman Urdú makes it quite a practical question whether the process of Romanisation, as now applied to Urdú, should not rid itself of certain impediments that at present encumber its path.

There is another aspect of Roman Urdú that also demands consideration. The Urdú and Hindí phases of Hindústání now stand apart, and the divergence between them tends to increase with the increasing cultivation of each, the former drawing more and more upon Arabic, and the latter more and more upon Sanskrit. Urdú, again, puts forward, as Hindústání terms fit to be in everybody's mouth, such downright Persianisms as *Kaisar-i-Hind*,* which is Hindústání just as much as *L'Impératrice de l'Inde* or *La Reine de l'Angleterre* is English, and no more. It would be a good deal

* The word 'kaisar' could properly be naturalised in Hindústání as the equivalent of 'emperor'; and, if so naturalised, it would give rise to a feminine 'kaisarín.' Such a feminine would meet a want. When India comes to have a reigning emperor in place of a reigning empress, how is the wife of the emperor to be styled? She could not be appropriately styled 'kaisar' in the sense of emperor's wife. To take 'kaisar' as the equivalent of both 'emperor' and 'empress,' is thus attended with a difficulty.

better, it seems, to appropriate bodily the English words 'emperor' and 'empress,' and to render 'Empress of India' into Hindústání as 'Hindústán kí Empres,' than to have recourse to the Arabo-Persianised form of 'Cæsar,' and adopt it as the Hindústání equivalent of 'emperor' as well as of 'empress.' Kaisar-i-Hind and Sitára-i-Hind and such-like expressions, though they are now used in Hindí, are used only as alien, not as naturalised, terms.

The undue domination of Arabic and Persian over the genuine Hindústání speech has naturally been bringing about a re-action among the Hindus. The *Nágarí Prachárint Sabhá* of Benares well represents this re-action. The *Sabhá* has been doing useful work in raising Hindí from its down-trodden position; but its reports, like other recent Hindí publications, show a tendency towards an increased Sanskritisation of Hindí style—towards a displacement of current expressions by superfluous importations from Sanskrit.

Are Urdú and Hindí, then, to stand perpetually apart, or is there to be ultimately a reconciliation between them, resulting in the formation of a common cultivated tongue for all Hindústání-speaking people? That such a reconciliation will ultimately take place, it is by no means be unreasonable to suppose; and towards a thorough reconciliation, I believe, with Mr. Growse, the adoption of Roman for Persian and Nágarí characters would be a necessary step. It may be allowed to Indians to hope that, when Roman come to take the place of Indian characters, there may be a scientific, and not a slavish, adoption of the former, so that the advantage of scientific precision that marks out the Devanágari and allied alphabets from the other alphabets of the world may not be lost to the Indian peoples.

In the Hindústání of the future, with its Urdú and Hindí phases no longer at strife, the Arabo-Persian element would, it seems, be comparatively weakened, the Sanskrit element comparatively strengthened, and an English element would have a recognised place. English must be the culture-language of future generations of Hindus and Musalmans alike. Its influence, therefore, must be wider than that of Arabic, Persian or Sanskrit singly. English would thus have a right to furnish its quota of terms to Hindústání, a right which even now it has exercised practically to some extent. As a knowledge of English spreads among Hindústání-speaking people, the process of appropriation of English terms by Hindústání will be quickened, just as a knowledge of Persian spreading among Hindus quickened the process of appropriation of Arabic and Persian terms. The fact, again, that Europeans residing in India and men of European descent born in India, whose vernacular

tongue is for the most part English, speak Hindústání for more largely than any other Indian vernacular, would also tend in some measure to help the infusion of an English element into Hindústání. From its past history, Hindústání, among all the vernaculars of India, has acquired the greatest aptitude for assimilating foreign elements, so that it would offer little resistance to the introduction of English words that would supply any kind of need. But all this is a vision of the future—the distant future—; and many will, no doubt, set it down as the vision of a visionary.

To return now to the Urdú graphic system. So far as the Indian, or Hindí, element in it is concerned, Urdú is entirely a phonetically written language. The foreign Arabic element is also to a large extent phonetically written, but not entirely, for in certain words of Arabic origin, distinct characters, as in the original Arabic, are used, though the original distinction in sound has disappeared in Urdú. Thus ت and ط, and م and ن and ز, no way differ in sound, in Hindústání, though they do so in Arabic. The step taken by Dr. Fallon, in his Hindústání-English Dictionary, of representing ت and ط by t, م and ن by s, and ز by z, is doubtless a step in the right direction, for it does away with distinctions that carry with them no differences.* It substitutes, in fact, the principle of phonetic Romanisation for the principle of transliteration into the Roman character. Transliteration, however, remains the general practice.

Dr. Ranking, in his *Guide to Hindústání*, third edition, 1895, gives on pp. 2-3 the system of transliteration adopted, as he says on p. 4, by the Council of the Royal Asiatic Society. This system, though a very accurate one in respect of the Arabic language, would answer very badly for Urdú, for it represents ت by t, خ by h, ذ by d, ض by d, a particular diacritical mark being placed over t, h, and the d that represents ذ, and two dots being placed under the d that represents ض. Fortunately for the students of his *Guide*, the learned Doctor does not follow the Society's method in the body of the book, but follows the orthodox method that has been in use so long. Even this orthodox method, it may here be added, causes serious practical difficulties in certain cases. In the *Guide* referred to above, دفة is transliterated daf'h (p. 46), and فته, fath (p. 24). The words in these Roman garbs can hardly give the foreign learner any idea that their

* Dr. Fallon's representation of ذ (a purely Persian, not an Arabic character) by z admits of no justification, for ذ has the sound of s in the English word 'division,' and not that of z. But words with ذ are very rare in Urdú.

sounds are dafa and fata, respectively. Forbes in his Dictionary —has daf'a and fath, and Fallon has dafa (with the initial form of the Arabic letter ξ over the second a to show that this a represents ξ) and fatah. The Arabic ξ , having lost its sound in Urdú, may well be ignored altogether in Roman Urdú.

Hindí, Bangálí, Uriyá and other Indian vernaculars are less concerned with transliteration than Urdú is ; but they are all concerned with it to a certain extent. Transliteration is a subject for the Bengal Executive Service Departmental Examinations in Hindí, Bangálí and Uriyá, as in Urdú, and for these examinations a system of transliteration has been authoritatively prescribed. Now, in the first three languages many words are written exactly as they are in Sanskrit, though they are pronounced differently, Bangálí being the greatest sinner in this respect. Would it not be well, then, if in respect of these and other non-phonetically written Sanskrit-derived vernaculars of India, the powers of the letters with which they are written were taken into account, and Roman characters answering to those powers were used, instead of Roman characters that are the proper literal equivalents of Devanagari characters as used in writing Sanskrit? Hindí is written in a non-phonetic way to only a slight extent as compared with Bangálí, the Hindí sounds of the Devanágari characters having diverged far less from the original Sanskrit sounds than have the Bengálí sounds of the corresponding Bangálí characters. Uriyá, too, is not quite phonetically written. I learn from an Uriyá Bráhmaṇ born in the Cuttack District that the word written, after Sanskrit, dakṣhiṇá, is pronounced dakhiṇá, and that the word written Lakṣmí is pronounced Lakhmí.

Transliteration, as applied to all Hindí, Bangálí and Uriyá writing, is of interest to only a comparatively small number of persons, after all. But, as applied to proper names, it is of interest to thousands, not alone to natives born to any of the above languages, but also to those to whom the languages are foreign. To the European foreigner it is by no means a light burden to carry in the mind that a man whom he hears called Ganendra is Jnánendra or Jnanendra in writing, and that Khet-tōr is Kshetra. This "pedantic nuisance" of transliteral Romanisation has been forced upon him by learned men of the West who are versed in the languages of the East.

It is a fortunate thing, however, that no learned Oriental has up to this time thought of transliterating into any Oriental character proper names as they are written in the Roman. If transliteration, instead of phonetic Romanisation, be the right kind of thing when Oriental names have to be written in the Roman character, transliteration ought to be the right kind of thing

when European proper names have to be written in any Oriental character. Let us test how transliteration into the Bangálí character would work here. To take only the names of the successive Lieutenant-Governors of Bengal—Halliday, Grant, Beadon, Grey, Campbell, Eden, Thompson, Bayley, Elliot, Macdonnel, Mackenzie and Stevens: These names transliterated into Bángálí characters would be, respectively, হাল্লিডায় (*or হাল্লিডায়), গ্রান্ট (*or গ্রান্ট), বেআদোন (*or বেআডোন), গ্রেয়, কাম্পবেল, এডেন (*or এডেন), থোম্পসোন (*or ঠোম্পসোন), বায়লেয়, এল্লিওৎ (*or এল্লিওট), মাকদোন্নেল (*or মাকডোন্নেল), মাককেনজিএ, and স্টেবেন্স (*or ষ্টেবেন্স). If it would be a detestable bother to a Bangálí to have to write হাল্লিডায় or হাল্লিডায় and pronounce it হ্যালিডে, it must be a detestable bother to a European to write Jnanendra and pronounce it Ganendra.

The spoken form of a language at any particular time is certainly its most advanced, though not necessarily its most improved, phase. The written form is archaic in comparison. Men have now come to see that the more closely the written form of a language conforms to its spoken form, the better it is. To secure as close a conformity as may be, it is necessary that phonetic spelling should take the place of 'historical spelling.' Such a change may not be practicable at present. But to maintain 'historical spelling,' where it exists, is one thing, and to transfer its evils to names and words, 'historically spelt' in one kind of character, when they have to be written in a different kind of character, is another thing. That certain evils cannot be prevented, is no reason why they should be propagated. Transliteration applied to 'historically spelt' names and words amounts to a propagation of evils. Phonetic Romanisation has thus a very good title to supersede transliteral Romanisation.

SYAMACHARAN GANGULI.

* D and t would be transcribed দ and ত, or ড and ট respectively, according as their Latin or English powers are considered. In transcribing Bangálí characters into Roman, their Sanskrit, and not their Bangálí powers, are usually considered.

† ট in Bangálí writing is always preceded by ণ (instead of ন) and by ষ (instead of স.)

ART. X.—THE PROGRESSIVE COOLING OF THE
NORTHERN HEMISPHERE AND OF NORTHERN
INDIA.

THERE are seven astronomical cycles which influence our religious and physical environment. The first five are as follows ;—

- (1). Apparently SOLAR, really TERRENE ; the daily revolution of the earth on its axis.
- (2). LUNAR, or monthly ; the revolution of the moon-planet round the earth. This fixes the so-called moveable feasts of the Church, such as Easter, which are thus lunar feasts.
- (3). SOLAR, or yearly ; the revolution of our double planet, "earth and moon," round the sun, which gives the so-called fixed feasts, such as Christmas, which are thus solar feasts.
- (4). The LUNAR, cycle of about $18\frac{2}{3}$ years, which causes all eclipses, conjunctions and occultations of the planets with the moon to repeat themselves every $18\frac{2}{3}$ years, and brings the lunar feasts back to the same date in this cycle of years.
- (5). THE PRECESSION OF THE EQUINOX CYCLE, otherwise called the Great-Orphic, or Zodiacal year. This is brought about by the combined attraction of the sun and moon upon the greater or equatorial diameter of the earth, which causes the axis of the earth to wobble in a cycle of which the exact period is slightly variable, as a spinning peg-top wobbles just before it falls. At present the yearly advance of the pole is $50\frac{1}{4}$ seconds of one degree of a circle, as given in the *Times of India* Calendar, which rate would complete the circle in 25,800 years. The observations on which this calculation is based have been carried on by modern astronomers only for the past 150 years. The ancients gave the length of the cycle or circle of the North Pole in the heavens as 24,000 years. But that, like all even numbers in astronomical matters, can have been intended only to represent an average, or near approximation to the actual period.

Our celestial North Pole, 5,000 years ago, was in the Dragon, and its pointers were the two stars forming the front of Charles' Wain, *i.e.*, the two next the three stars forming the

tail of the Great Bear. At the present time the pointers are the two outer stars of the Great Bear, *i.e.*, the two rear stars of Charles' Wain. When the position of the precession cycle is such that the earth in the northern winter is nearest the sun at the shortest day, December 21, the earth rushes past the sun at such increased speed that the winter half of the year, as counted from the autumnal to the vernal equinox, is $8\frac{1}{2}$ days shorter than the summer half, as counted from the vernal to the autumnal equinox.

This causes the ice to melt at the northern ice cap and releases the sea from its attraction to this ice cap. The time comes when the ice more or less suddenly breaks away, a process prolonged and repeated possibly over several successive centuries; "the waters of the great deep are broken up," and the present physical conformation of the earth, as exhibited in the physical map of the Northern Hemisphere, is such that the waters then accumulated over European Russia and Siberia can escape only through the Black Sea, *viâ* the Dardanelles and Mediterranean, into the Atlantic. The full stress of this flood concentrates on the Southern shore of the Black Sea, in Mesopotamia, and thus caused Noah's flood. When the sea retreated from the land, the *juventus mundi* began; the forests began to grow; the retreat of the sea and the exposure of the land to the genial warmth of the sun caused the former glacial climate suddenly to cease; the Alps were melted down to their present limits, and the development of the white races of Northern Europe began.

The new school of geologists state that the glacial epoch was in full force 7,000 years ago at the Niagara Falls in the valley of the St. Lawrence, and in the valley of the Mississippi. The maximum warmth—in the Northern Hemisphere occurred in the year 1248 B. C., 3,145 years ago, at the date of the maximum of summer days. Since that date reverse conditions have set in and the northern hemisphere is getting steadily colder, so much so that forests have ceased to grow in Northern Russia and Siberia, in the north temperate zone. This increased cold caused the irruption of the Tartars, or Huns, from Dsungaria into Hungary, and of the Goths Vandals and Germans into the ancient Roman Empire, bringing about its ruin, and led at a later date to the irruptions of the Norwegians and Danes into England. The same causes help to explain the overthrow of the Chinese Empire by the Tartars under Genghis Khan, the irruption of the same Tartars into India under the name of Moghals, or Mongols, and into Asiatic Turkestan and Russian Europe up to the time of Peter the Great, as Turks, or Tartars. To the same causes are due the hungering of the Russians for more genial southern climes, of

which the conquest of their old enemies the Turks is but a phase.

The Russian movement to the south will probably be stopped for a generation or more by the necessity of re-peopling the fertile regions of the Bactrian Kingdom, up to the Hindu Kush and Thian Shan, and of settling the immense belt of fertile wheat-growing country on each side of the Siberian Railway along Southern Siberia and the northern slope of the Chinese plateau, extending from the States of Tartary and Dsungaria to the Pacific Ocean.

The permanent rise of the sea level under these reverse conditions, owing to the attraction of the ever-increasing ice cap in Greenland, caused the overwhelming, 800 years ago, of the low-lying fertile ground in Thanet-island, near Margate, which then belonged to a monastery, and is now called Godwin Sands. At the same date began the first irruption in Holland of the Zuyder Sea, over the then existing wheat fields of the Issel river, or lower Rhine. These irruptions and extensions of the sea have gone on continuously, so that the fishing vessels in this sea are now constructed to draw eight feet of water and sail in the shallowest neap tides over what were once smiling cornfields. The Netherlands Government fifteen years ago reclaimed the Haarlem Lake from the sea at a cost of two millions sterling after a Company had failed to complete the work. This lake is 18 feet below sea level and is kept dry by the continuous pumping of powerful steam engines. The writer saw corn growing in the bed of the lake when he was there, eight years ago. The Government now propose to reclaim the Zuyder Sea at the cost of thirty millions sterling. In the year 1889 the excavation for the first portion of the work, a canal for ocean going ships and steamers from Amsterdam to Rotterdam, was in full progress. This canal is now completed, and the Government are discussing the best means of carrying to a successful issue the biggest reclamation from the sea that has ever been attempted.

The effects due to the permanent rise of the sea levels are just as noticeable in the Mediterranean. Travellers have noted that the plinths, or ground floors, of the Roman Villas in the bays of Alexandria, Tyre and Naples, and in many other places, are under water. The Encyclopedia Britannica states that, during the past 100 years, the Greenland fishing villages evangelised by the missionaries have sunk 15 feet into the sea, and other villages have had to be built further inland in their place. The real effect is not that the land has sunk, but that the sea has risen. When in Venice 16 years ago, the writer saw that the wharves of all the canals were being raised three feet, and the outfall of their main drain, or *cloaca maxima*, was also being raised to the same extent. We see the same effects in a modi-

fied form in Bombay. The top of the stone embankment on the Kennedy Sea Face was, two years ago, raised to a higher level. The permanent rise of the monsoon sea level has been noticed at the P. and O. and British India Dry Docks in Mazagon. As the years go on, our Bombay wharfs on the Port Trust Estate will have to be raised, and the Municipality will have to provide more powerful pumping engines to keep down the monsoon floods, owing to the increased inability of the sea to perform this duty. But for this pumping, it would be necessary in the course of years for the Municipality to insist upon the plinths of houses on the Esplanade and other reclamations being permanently raised.

A reference to the Calendar, the particulars of which are taken from the Official Nautical Almanac, shows that the vernal equinox of the present year occurred at 1-00 P.M., 20th March, and the autumnal equinox at 0-00 A.M., 23rd September. These figures, on the basis that the length of the year is approximately $365\frac{1}{4}$ days, show that the summer half of the year is 186 days 11 hours long; the remainder, being the winter half, is 178 days 19 hours long; the difference between these two periods, or 7 days 16 hours, being the additional length of the summer days. These conditions are, of course, exactly reversed in the Southern Hemisphere. The present cycle having commenced, as already stated, in the year 1248 B.C., when the quarter cycle of 5,250 years has been reached, in 4,002 A.D., the number of summer and winter days in the northern and Southern Hemispheres will be exactly equal; after which date the number of winter days will be more than the number of summer days in the Northern Hemisphere and glacial conditions in the north will be greatly intensified.

If we had to wait for a further two thousand years before these glacial conditions set in, the subject would have but an academic interest for us. But we know by practical experience that during the present generation the chilling or cooling conditions have already begun; so much so, indeed, as to make it a positive misery to live through an English winter; and that there is but little amelioration in the Continental winter, unless we make our retreat on or near the northern or southern shores of the Mediterranean.

The writer first began to take a practical interest in this question more than twenty years ago, after reading in Van Nostrand's Magazine, a United States Scientific Monthly, an article which stated that the curve of the earth in the latitude of England would, during each precession cycle, vary between the limits of one quarter and three quarters of a mile above its present position, that is, that the centre of gravity of the earth would change, and the sea would rise above

its present level, overwhelming England to that extent. As the contributors to this magazine were University professors, and men of eminence as astronomers, geologists, chemists, electricians and engineers, it was evident that this alleged change in the curve of the earth was worthy of the most serious study. At that time and for some years later, no literature was obtainable upon the subject; the precession cycle, in astronomical and geographical text books, was, if not actually tabooed, described in such a compressed and slipshod fashion, that it was difficult to understand how this wobble of the earth's axis every 21,000 years could constitute an astronomical epoch, and have such far-reaching physical effects, for, on a cursory perusal, it was not possible to conceive how the astronomical phenomena could cause glacial action. Now a small library is obtainable, showing how the one class of phenomena produces the other. The simplest and best of these books is a 2s. 6d. brochure, "The cause of an Ice Age," by Sir Robert Ball, till recently the Astronomer Royal of Ireland, who shows in a most interesting and lively way, his facts confirmed by pure mathematical reasoning, that this excess of summer days, and its opposite, works with accumulative geometrical effect upon the climate of the world. To confirm this, we have, as already stated, the New Geologists coming forward with their proofs from the Surveys, or Ordnance maps, that the last glacial epoch was in full force, not 700,000, but only seven thousand years ago, at the Niagara Falls and in the Valley of the Mississippi!

In a lecture delivered during the current year at the Society of Arts, on "Arctic and Antarctic," Mr. Aubyn Trevor Battye states: "How Arctic geology tells us clearly of a warm period when the spruce, the magnolia and the deciduous cypress, which are existing trees in the present geological epoch, flourished there," while the excavations still being made in the ice of the New Siberian Islands for mammoth's tusks, in which the flesh upon the carcasses of these animals is eaten by the wild dogs as the protecting ice is cleared away, show how recent is the date when this extinct race flourished on the earth. The writer has seen these immense tusks in the London Docks, imported as an ordinary article of commerce. The same lecturer stated that, "though the forests have disappeared on the shores of the Arctic Sea through excess of cold, yet that there are one creeping birch and three species of willow still in existence which are seldom more than two inches high and of the thickness of a cedar pencil!"

To this we might add that in recent years the cold has become so severe in Iceland that the coarsest northern corn will no longer ripen there, and the whole of the food of the islanders

has to be imported. The reason for this colder climate probably is that the Gulf Stream, not being so strong as in former years, no longer strikes the island, which now gets the full force of the return northern current, laden with icebergs and floes from the Paleo-crystic Sea.

The prevalence of icebergs on the Labrador and Newfoundland coasts has greatly intensified during the past twenty years, making the navigation of the North Atlantic increasingly difficult for all fast and ordinary steamer and sailing ships. Corn, in consequence, will no longer grow in Labrador, which also has to import all its food-supplies.

The lowering of the winter temperature in Northern Europe and America has been also evidenced by the increased frequency of blizzards in Canada and the United States, and by the prolongation of snow-storms in England, and Europe generally, into the late Spring.

For instance, a destructive gale is reported to have taken place at Blackpool, a watering place on the west coast of England, north of Liverpool, on the 16th June of this year, in which the masts of Nelson's old flagship *Foudroyant* were washed overboard and the vessel was wrecked. During the same day a westerly storm of great violence swept over Blackburn, a Lancashire weaving town, north of Manchester. The hay-making, which had only just commenced in the district, was stopped. The weather was bitterly cold in the earlier part of the day, and at 6 A.M. snow fell heavily in the surrounding villages. This date being close to the longest day of the year, 6 A.M. would be long after sunrise. The same storm visited York and Glasgow. It blew from the west, which, being from the direction of the Gulf Stream, is usually soft, mild and damp, and makes Lancashire so suitable for cotton spinning. On this occasion, however, the storm, blowing with great violence and velocity, would bring to England the cold air from Newfoundland and Labrador, where, at that time of the year, the icebergs and floes are being carried south in large masses.

It is now common for the hawthorn, or "May," flowers in the English hedgerows to flower in June, instead of in May. We see the same change in Northern India. For several years past the late snows on the Himalayas have been delayed in their melting by prolonged cold north winds, which have caused the heavy rains to burst a month after the proper time, so that the cotton-planting and picking seasons have been retarded to that extent. During the present year the south-west monsoon did not begin to blow till after the end of May, instead of at the beginning of that month. The current has been so unsteady as to change occasionally to the north-west, while the rains had hardly set in properly at the end of the first week in July.

The large Continental black and white wine grape grew freely in England during Saxon times. It now grows only under glass. The existing open air English grapes are stunted black and white varieties of small berries, the vines of which have to be trained on the south and west walls of country houses, screened from chill winds and exposed to the warm afternoon sun.

We have also exact horticultural information from China, confirmed by the records of their ancient literature. According to the *North China Herald*, "the climate in East and West Asia is becoming colder. That of China is growing, not only colder, but drier. Animals and plants used to hot moist regions are gradually retreating southwards. Two thousand years ago the bamboo flourished in the forests of North China; but it does not now, and at Peking it is only cultivated under shelter and in favourable localities as a garden plant."

We know that the Continent of Asia is getting colder, because the cold north winds become year by year more prolonged, so that it is now quite a usual occurrence for snowstorms to fall in the Kulu Valley and on the higher ranges of the Kashmir hills late in the month of May. The snow begins to fall in September and continues falling till the following May and June, making the approaches to Gilgit and Chitral unduly difficult.

During the present year these conditions have been intensified in Northern India. Since the beginning of August, Mr. Markham has warned pilgrims against attempting to cross the higher Kashmir passes, stating that there is still ten feet of snow on the Wan-ball Pass, 14,000 feet, and that a heavy fall of snow took place only a few nights previously.

It is true that the great heat of the summer in Southern Siberia, the Chinese desert and Turkestan forces the south-west monsoon to melt the snows on the southern slopes of the Himalayas; but, if the snow-fall on the higher ranges should, in any one unusually stormy season, be prolonged through the summer into the month of September, or even of August, we might expect that new conditions would suddenly become established. The snow having failed to melt for one year, the accumulated cold would probably prevent the melting during each successive year, and cause the new ice to solidify into permanent glaciers, which would result in a permanent retardation, and possibly a deflection, of the south-west monsoon current.

As the years go on, the glaciers will greatly increase in the Pamirs and Himalayas. At present there are but few glaciers on the southern slopes; they are permanent only on the northern. As the glaciers increase on the southern and

northern slopes, the attraction of the accumulated ice will cause a permanent increase in the level of the Indian Ocean and Bay of Bengal. A rise of 100 feet would cause the sea to extend to Goalpara, 400 miles up the Brahmaputra, in Assam, and engulf Calcutta and the Lower Bengal cities of the Ganges up to Sahebganj.

At present the Arctic ice cap is confined to Greenland. But the Arctic Sea from Norway, along Russia, Siberia, Alaska and the Dominion of Canada, to Greenland is a fair approximation to a circle, showing that in glacial times the Arctic Sea was a solid mass of ice, the glaciers of which flowed on all sides from centre to circumference, as they now do in the Antarctic ice cap, and in their flow forced up the earth upon which they rested on to the shores of the Continents of Europe, Asia and America. All that is needed to re-introduce this condition is that the ice cap at the northern end of Greenland should extend up to Spitzbergen, so as to stop the flow of the Palæo-crystic Sea to the south-west, and, by the attraction of the increased mass of ice piled up, cause the low northern shores of Russia and Siberia to be covered by the sea, to which would be deflected the Gulf Stream round the coast of Norway and Lapland. The evaporation from this sea during the long Arctic summer would cause daily snow-storms and a rapid accumulation of permanent ice.

It is now well understood that the Gulf-Stream, which brings genial conditions to Northern Europe, is due to the northern trade wind, which also in its season brings the monsoon to India, and that this trade wind is attracted by the summer heats on the Continents of Africa, Europe, Asia and America. These heats are intensified by the excess of summer over winter days. At the present time, in consequence of these conditions, the equator of temperature is ten degrees north of the earth's equator. As the summer heats of the Northern Hemisphere diminish, the southern trade wind and the southern Gulf Stream will increase in strength; and this will accelerate the melting of the southern ice cap, which in the Meridian of New Zealand is already deeply fissured and invaded by the sea, and the water set free from it will, through the increased mass of ice in Greenland and the Arctic Sea, gravitate northward, and increase the overflowing, already referred to, of the lowlands of Siberia by the sea.

The greater the area of sea in the Northern Hemisphere, the greater will be the evaporation and condensation in the form of rain, and the accumulation of snow, in the Arctic Zone and in the high mountain ranges, and the greater the prevalence of cold north winds due to this snow. It is not

safe to dogmatise as to what is the rate of yearly rise of the sea-level in the latitude of England and elsewhere. Owing to the influence of the British Association for the promotion of science, self-registering tidal gauges have, since the last twenty years, been set up all over the world, upon which a basis of observed facts will gradually be built up. One of these gauges has been erected on the Apollo Bunder, Bombay.

The climate near the southern ice-capis becoming more genial and causing the ice to melt. The recent Antarctic expedition noticed that, in one of the islands, plants are now growing where voyagers fifty years ago found nothing but ice. The desert valley of salt lakes between Eastern and Western Australia has emerged from the sea in but recent geological times ; probably a few centuries ago.

The celestial polar, or precessional, cycle due to the conical spinning of the earth's axis will always consist, as already mentioned, of a period of from 24,000 to 26,000 years in length of complete revolution. But the physical cycle depending upon and resulting from it, which produces glacial conditions in Greenland and in the north temperate regions of America, Europe and Asia, as also in Switzerland and the Himalayas, and causes the migration of the human and animal creation from the north temperate to the south temperate zone of the Northern Hemisphere, is accelerated by the attraction of the several planets upon the earth in its orbit round the sun. This orbital attraction, which works in the direction opposite to that of the precessional cycle, causes a complete revolution of the elliptical orbit of the earth round the sun, which is always at one focus of the ellipse, in the reduced period of about 21,000 years. Thus the celestial polar circle, according to the Hindu, Chaldean, Egyptian and modern calendars, makes a complete revolution through the starry heavens in from 24,000 to 26,000 years, but the glacial or climatic cycle makes its revolution in 21,000 years ; that is, the orbital revolution caused by planetary attraction in the opposite direction to that of the precessional cycle is accomplished in about 5,000 years, and is really a sixth cycle.

This orbital revolution has no effect upon the period of time taken by the polar circle in completing its apparent revolution through the stars, which according to modern astronomers brings the north pole back to its original pole star in the period of about 26,000 years. Nor has this revolution any practical influence upon observations of the stars, for the reason that the orbit of the earth is so infinitely small as compared with the distance of the nearest star. But it has this important physical effect. It reduces, from 26,000 to 21,000 years, the period of time which the earth takes in coming back

to its original orbital position, when in the northern winter it is nearest the sun in the line of the transverse diameter of the earth's elliptical orbit on the shortest day, and the winter half of the year is in consequence of this position eight and a half days shorter than the summer half. Thus the sixth cycle of orbital revolution modifies the period of the fifth cycle of polar revolution, and so really forms a seventh cycle made up of the combined attraction of the sun, moon and all the planets. As these several bodies are never in the same relative positions, it follows that the period of time occupied by this physico-glacial-genial cycle in any two revolutions can never be of exactly the same length. The present length, of about 21,000 years, has been computed by modern astronomers; the ancients appear to have been ignorant of it.

Our real polar ice-cap is not at the North Pole, but on the island-continent of Greenland, which is from 8,000 to 12,000 feet high, and 380,000 square miles in area, forming a mass of flowing glaciers equal to a circle 700 miles in diameter. The southern ice-cap is 2,500 miles in diameter, and is thus twelve times the area of the Greenland ice-cap. As the southern ice-cap is estimated to be twelve miles high at its centre, while that of Greenland is only two and a half miles high, the mass of the former is more than fifty times that of the latter, and therefore exercises that additional attractive force upon the level of the sea.

It was the fashion for the scientists and materialists of the last generation to ridicule the possibility of Noah's flood, to which allusion has already been made. But a study of the physical maps of Europe and Asia shows that, on any sudden lowering of the level of the Arctic sea along the shores of Eastern Russia and Siberia, due to a partial or complete breaking up of the ice-cap, the waters could escape only on the west side of the Ural Range, down the valleys of the Don and Volga, into the low lands between the Black Sea and the Caspian. The area of the escaping waters would be 2,500,000 square miles, which would rush partly into the Caspian and partly into the Sea of Azov, overwhelming the Crimea in its course. The pent up waters, could finally escape into the Mediterranean only along the Bosphorus, the Sea of Marmora and the Dardanelles. As the Bosphorus is only one mile wide, any one with an experience of the bore up the Hughli at Calcutta can form some conception of the height of the storm-wave that would be raised, and the devastation that would be caused by the escaping waters, compressed into the space of one millionth of their original area.

The writer invented and designed the wave compressor at the Back Bay Swimming Bath, Bombay, in which a

wave thirty feet long is compressed into a width of two feet. The force is such as to fill the bath to the height of five feet above sea level, and to send the wave at times right across the bath into the air, a distance of thirty feet. If reducing the length of a wave from thirty feet to two feet has so powerful an effect, what must be the result of confining the escaping waters from the north in the narrow channel of the Bosphorus !

DAVID GOSTLING, F. S. A.

ART. XI.—THE PUBLIC HEALTH OF INDIA.

IT is a matter for sincere gratification that India as a whole, and the Government of India in particular, are showing distinct signs of having realised the necessity for doing something to foster the study of Preventive Medicine in this country. Like the moisture of the coming monsoon, some such intention has been "in the air" for a considerable period; a vague impalpable something, a floating vapour of rumour which has occasionally reached saturation point, and, becoming condensed, has fallen locally in a welcome shower, as an Imperial Bacteriologist, a laboratory of sorts, a Special Commission, or the promise of a site for a Pasteur Institute.

Who it is that, by his verbal artillery, has helped to bring down these sprinklings, is a question which it is needless here to discuss in detail. A large meed of praise must certainly be given to the late Sir Spencer Wells and to Mr. Ernest Hart, that far-seeing and much-reviled editor and writer; for, though it is true that the Indian Medical Service, and more particularly some of its comparatively junior members, have again and again urged the necessity for such a development, the somewhat saddening fact remains that a prophet in his own country is apt to be regarded as a bore or a visionary, in any case as an official inferior (so the phrase runs), and *ipso facto* incapable of knowing more than his "service" entitles him to know. Let the credit be given to who hungers for it; the point of importance is that the monsoon of scientific progress, harbinger of national health and wealth, is clearly discernible in its advance Simlawards, ready, let us hope, to burst ere long o'er that Olympian spot.

"When,"—as had been said before, "the Government of India makes up its mind to do a thing, it generally does it well," and when, as occasionally happens, it is not done well, the defective performance can generally be traced to the initial adoption of mistaken advice in high quarters. It is not so much that those in high quarters are not well-informed; indeed, it is freely admitted that they are generally very well informed; but they are not omniscient. In other countries the administration is constantly prevented from error by the force of an active and intelligent public opinion—a force which, for a variety of reasons, is an almost negligible quantity in India, more especially because of the rules which very properly debar officials from engaging in public discussion. It is, therefore, the more incumbent on those who are able, to
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do what they can, when opportunity offers, towards the prevention of unwitting injustice, or the commission of errors, whether of excess or of limitation. This we say in no spirit of idle carping, or of irresponsible criticism, but from a sincere desire to help a cause of such magnitude and power for good as it has become already under the Governments of Europe and America, and which, more than money, more than shot and shell, more even than art and literature, is an index of civilisation and an acknowledgment of the claims of humanity.

Assuming, then, that all whose opinion is of value are agreed upon the necessity for something being done in the direction of the higher branches of preventive medicine, as distinguished from, or, rather, in addition to, ordinary medical work and practical sanitation, let us set before ourselves, as clearly as may be, what is embraced in that 'something.' For this purpose it is impossible to do better, in the first place, than to take a look at what is being done in other countries where such work has been for some time an integral portion of the internal economy. Unfortunately, in this respect, England has lagged far behind, and is only now beginning to try for a place worthy of her reputation in this honourable contest. To France, Germany, Russia, Italy or some other continental power we must go to learn what is understood by the study of hygiene, as distinguished from the practice of sanitation. These countries have long ago realised the vital fact, so forcibly insisted upon by all sanitarians, that nothing is so costly as disease, and that from a purely pecuniary point of view there is no better investment for a portion of the national wealth than institutions devoted to the systematic, unflagging study of the means by which health may be maintained and by which diseases are caused and spread.

The 'common sense' of England, which we hear so much about, long ago recognised the immediate value of sanitary improvements in the shape of pure water, fresh air, and the removal of all offensive matters from the neighbourhood of dwellings. Unfortunately, that same common sense, dominated, as it is, so largely by a commercial spirit, considered that, when it had opened its pockets freely to the demands of the sanitarians and could point to elaborate schemes for water-supply and drainage, to a greatly improved style of living amongst the general population, to clean streets and airy dwellings, it had done all that could reasonably be required of it, and that it was rather too much to expect it to give money for the upkeep of laboratories and institutes of no immediately apparent use or profit. Happily, that feeling is passing away, largely as a result of the fact that John Bull

has slowly begun to realise that he is being beaten, and badly beaten, in the contest for hygienic supremacy. Whilst other nations were accumulating knowledge of incalculable value through the labours of their scientists, and actively applying that knowledge to the improvement of the conditions of life in their countries, the mass of Englishmen was content to go on, year by year, with the same hazy principles, and a practice defective, not from want of energy, but from want of the exact knowledge which results from unremitting investigation and experiment alone. That England maintained her supremacy at all in practical sanitation, was due simply to the fact of her great wealth, whereby she was enabled to survive the failure of schemes that would have ruined her less opulent neighbours.

In almost every continental town of importance there exists some kind of 'Institute' in which all that relates to practical hygiene receives attention day by day, year by year. Some of these 'Institutes' are on an immense scale and possess, more or less, a national character; others are essentially municipal; but the difference is merely one of degree. The best known to the ordinary reader is probably the Pasteur Institute in Paris, to which references are so constantly made in magazines and newspapers. To a certain extent this must be regarded as a drawback, for the simple reason that it has led to the common acceptance of the idea that bacteriology, and more particularly the prevention of rabies, is the be-all and end-all of scientific investigation in the domain of disease. Whilst, however, the study of bacteriology has proved itself of the highest value and has achieved magnificent victories, the important fact remains, and cannot be too constantly insisted upon, that this is after all but a portion of what is embraced under the term practical hygiene.

So little is this understood, that we have heard it stated by some that, in comparison with bacteriology, nothing else is of much importance, and by others, that bacteriology, has nothing to do with hygiene; the implication being, apparently, that hygiene is a finished (or effete?) subject, about which everything that requires to be known is known already, but that there really are a few things still to be discovered as to the doings of bacteria! Which of these ideas is the more erroneous, it were hard to determine. To serve as a corrective for both views we cannot do better than give, in a very condensed form, a summary of the subjects dealt with in the standard work, *METHODS OF PRACTICAL HYGIENE*, by Professor Lehmann of Würzburg, and translated by Sir W. Crookes, F.R.S.

Section I. is entirely concerned with chemico-physical methods, and contains chapters on chemical laboratory work, the

use of the spectroscope, the determination of absolute and specific weights, the principles of quantitative analysis, measurement and calculation, &c. Section II. deals with the methods or technique of bacteriology, and contains a *conspectus* of the various kinds, or forms, of bacteria, whilst Section III. is a short chapter on hygienic-toxicological investigation, *i.e.*, the effects of various substances upon the animal economy, and how these effects may be studied. Part II. is devoted to Special Investigations, and even a summary would be too lengthy to quote. The following list of contents of Sections IV. and V. will serve to give the reader some idea of what a mass of work is included in practical hygiene which is not solely bacteriological: Examination of the Most Important Constituents of Food—Determination of the Carbohydrates—Examination of the Utilisable Character of Foods—Decision on the Nutritive Value and Cost of Articles of Food—Hints for an Examination of and Decision on Dietary-Scales—Examination for Chemical Preservative Agents—Decision upon Preservative Agents. A very large portion of the second volume is devoted to considering articles of food in detail, and perusal of the chapter on milk, showing how much is known and yet how many points require further investigation, even in Germany, will convince the most sceptical of the vast amount of work ready-to-hand in India on this and kindred subjects. Other chapters are devoted to Clothing—its behaviour with air and water, its thermic properties, permeability to the rays of the sun, etc.; to Buildings—materials for, plans of, natural and artificial illumination of, ventilation, etc.; the Methods for Investigating the Causes of Epidemic Outbreaks; the Examination of Disinfecting Agents and Apparatus, etc., etc. Secondly, it should be noted that there is not a single section of the book which does not refer to, or deal with, the practical study of bacteria in relation to the matter under discussion. Thus, we have the bacteriology of air, of water, of soil, of milk and other foods, of buildings, etc. From all of which it is pretty evident, firstly, that there are other things in hygiene besides bacteriology; secondly, that bacteriology is an integral portion of practical hygiene.

In the study of this subject there are, therefore, problems of every kind to be investigated and, if possible, solved; problems which require a wide knowledge of chemistry, meteorology, geology, physiology, medicine and, in fact, almost every natural and physical science. It is obvious that one man cannot know everything, and that there must be, therefore, specialists in the different branches; but it is none the less true, though much less obviously so, that the primary requisite for a practical hygienist is the widest possible general education, combined with the skill requisite for verifying or

rejecting the conclusions of others on special points. We know that there are some who would confine every man's work within narrow bounds, and who maintain that a man must be only a chemist, or a bacteriologist, or a helminthologist, or a physician, and so on. That such a view is erroneous, we have no hesitation in asserting. It is certainly necessary to have the aid of such men, and all the knowledge that can be gained from workers in purely pathological, chemical or bacteriological laboratories is, and must be, of the highest value. The mistake consists in considering any such special laboratories as fulfilling the needs of a hygienic Institute. Every large German town, almost, has its special laboratories for all kinds of scientific, technical or medical education, and more especially for the education of chosen pupils in research work. But, besides these, there are, *e. g.*, in Berlin and Munich, true Institutes of public health, in which *any* question relating to health, whether as to building materials, to sewage purification, to the clothing of troops, to the movements of ground water, the bacteriology of living-rooms, the disinfection of hospital wards, etc., etc., can be examined into by the regular staff, or by attached workers. So, in India, to limit the functions of such an institute to bacteriology, or to the preparation of antitoxins, would be an error of the first magnitude ; to call it an Institute of Public Health, a misnomer. No doubt bacteriology in its many aspects would bulk largely in the work done ; but it is very far from being the only branch of hygiene that urgently requires attention.

This being understood clearly, we may pass on to consider the actual requirements of India, due regard being paid to the possibilities from a pecuniary point of view.

First, then, there must be a central Institute, which may fitly be known as the Imperial, or the Victoria, Institute of Hygiene. Locality is unimportant so long as the conditions of accessibility, coolness and comparative nearness to the seat of government are fulfilled. An unlimited supply of water and gas are essentials. It must contain rooms for physical, chemical, pathological and bacteriological work ; a good workshop for the manufacture and repair of apparatus ; a photographic room, lecture-theatre, vivaria, abundant space for the conduction of out-door experiments relating to buildings, sewage purification, etc., and suitable quarters near at hand for the workers and attendants.

It must be remembered, also, as indicated previously, that such an institution would not merely deal with problems of disease, but would most undoubtedly afford the means for investigations of various kinds, having as their

direct object economy of Imperial and Municipal expenditure. To take an example ; the disposal of sewage is admittedly a problem embracing not merely the public health, but also the outlay of large sums of money. Experiments, *i.e.*, not mere haphazard experience, but accurate, scientific experiments, have demonstrated of late how sewage may be purified and rendered sufficiently innocuous for discharge into a stream, by filtering it through filter-beds of the simplest construction charged with certain kinds of bacteria. It is of vital importance, on every ground, that these experiments be repeated under the conditions of climate, soil, sewage composition, etc., which obtain in the tropics. If such experiments were properly carried out on the lines of those in England, Berlin and Massachussets, the results would be of highest value from every point of view. Want of space precludes further examples ; else we could fill pages by the mere enumeration of problems relating to food-supply, ventilation, building construction, purification of water, etc., that await their solution in India.

Thus, roughly, we have indicated some of the functions of the Victoria Institute of Hygiene. Theoretically, there should be, no doubt, such an Institute in every Presidency and province. Possibly, in time there will be ; but practically it is out of the question for the present. On the other hand, a central Institute situated, say, near Simla, must, by reason of distance, a comparatively limited staff, etc., confine its operations, as a rule, to questions of general application. Each Presidency or province cannot have its large Institute, but each requires some place in which the various local questions that are continually cropping up can be dealt with, and which will form to a certain extent a training ground for fresh workers and an educational centre for health officers, sanitary inspectors, medical students, etc., and a place in which laboratory work, a museum of hygiene and open air demonstrations to pupils can be organised and carried out.

The largest towns, such as Bombay, Calcutta and Madras, absolutely require some place for general laboratory work in connection with their municipalities, hospitals and medical schools. One town has a small municipal laboratory ; another has a hygiene laboratory for teaching purposes ; another has its so-called research laboratory. Not one of these fulfils the requirements above-mentioned, and there is great danger of the multiplication of small and insufficiently-equipped laboratories, in place of a central laboratory combining the functions of education, research and municipal work. It is far cheaper to have one efficient laboratory, with several rooms thoroughly equipped, a small museum of hygiene attached, and the whole in charge of a permanent superintendent, than to have separate laboratories and equipment, and different

individuals in charge of each. A still more serious mistake is the proposal for each presidency or province to have its bacteriologist pure and simple, working in a special laboratory, remote from his material, and without the co-operation or assistance of fellow-workers. It is, indeed, a mistake from every point of view—pecuniary, educational, scientific, municipal; and its adoption will, we prophesy, prove relatively expensive and abortive. In the central Institute all such work would be far better performed, with the assistance and better means available, whilst the existence of the local or Presidency Public Health laboratories, say, in Bombay, Madras and Calcutta to begin with, would simplify the problems of municipal work and the education of sanitary students of all kinds.

There appears to be in some quarters an idea that the duties of a chemical examiner and a practical hygienist are almost, if not quite, identical. This is also a serious error, and the attempt to combine them is bound to result in neglect of one set of duties or the other. In any case, the Chemical Examiners to Government in the three chief towns of India have enough and more than enough to do, without extraneous duties of any kind whatsoever.

There remain, then, to be considered the source and numerical strength of the staff, firstly, for the central Institute, and, secondly, for each laboratory in the Presidency towns.

From what has been said before, it is obvious that the superintendent of a laboratory devoted to public health work must on no account be a pathologist, or a bacteriologist, or a chemist, *pure and simple*, but a man with a wide knowledge of disease, such as only the physician who has worked at his profession in its curative and preventive aspects can have. He must, at the same time, be a man of scientific bent, to whom private practice offers no inducement, and who has kept himself abreast of the times in his knowledge of modern hygiene. He himself would work, when possible, at something more particularly in his own line, for every man, however wide his knowledge, must have some work which he is specially fitted to undertake. Turning over the Table of Contents of the well-known volume, *Physiological and Pathological Researches*, by the late T. Lewis and Surgeon-Lieutenant-Colonel D. D. Cunningham, C.I.E., we find papers on the Causation and Spread of Cholera, from many points of view, a line of research continued by Cunningham to the present day; the Fungus Disease; the Oriental Sore; Leprosy in India; Enteric Fever Pathology; the splendid series of papers on Hæmatozoa and other Parasites, and a Report on the Dietaries of Labouring Prisoners in Indian Jails.

There are at the present time several officers of considerable

seniority in the Indian Medical Service, including Surg.-Lt.-Col. D. D. Cunningham, perfectly capable of assuming the directorship of such a laboratory, and of combining the administrative and executive functions, with success. What is *not* required, is the appointment of some individual who is known chiefly for brilliant surgery, or for the economical management of a jail, or simply as a 'good all round' man, professionally or otherwise. The primary requisite is for him to be a scientist, in the proper sense, with, secondarily, a wide knowledge of Indian life and conditions. The only other *ex officio* permanent official required is an assistant, or deputy superintendent, who should be a man of similar qualifications, but more junior and, if possible, distinguished in some special branch of hygienic research, in addition to wide general knowledge. The rest of the staff should be made up of four or five officers, one each from Bombay, Madras, Bengal and the N.-W. P. and Panjâb, who have given evidence of scientific tendencies and capabilities in one or other direction.

In this connection it must be remembered, as being unalterably true, that the scientist, *i.e.*, the man who can carry on useful research work, is born, not made. Honours, gold medals, etc., are no real touchstones of his capability. Indeed, as often as not he lets the chance of obtaining such go by in his dogged attempts to settle some problem which has fascinated him. More cannot be said here save to emphasise the facts that, on the one hand, a wide experience of modern laboratory workers has convinced us that such men, amongst Englishmen, must be carefully sought for, and that, on the other hand, amongst the medical officers of every Presidency there are three or four men who are perfectly capable of undertaking the work required, with the certainty of achieving valuable results in time. But they must, when selected, be left alone, or, rather, be left under the sole charge of the superintendent, and not worried with G. O.'s and requests for Reports on fixed dates, etc. If, within a reasonable time, say, one year, they give evidence of capability for doing useful work, as judged chiefly by the value put upon their researches by the medical and scientific press of India and Europe, they should be retained till they have completed their work, receiving a proper scale of pay and allowances. Other officers might be detailed from time to time to undertake special investigations, provided they satisfied the superintendent as to the usefulness of their intended research, and that his opinion was officially endorsed.

The past history of such work of this kind as has been done in India induces the fear that one of two forms of injustice may prevail, either of which is sufficient to condemn the scheme. In

the first place it has become the custom, whenever there is a scientific enquiry of any kind on the *tapis*, to appoint a Special Commission or a Special Commissioner, in nearly every case from extraneous sources. They, or he, may, or may not, be English; the point is that they are not (with the rarest exceptions) officers of the Indian Medical Service. Now, this is undoubtedly an error of policy as well as an insult to what is the finest medical service in the world. If the officers of this service had been given a fair trial in scientific work and had failed, there would be reason for such a line of action. But we say, emphatically, that they have not been given such a trial. The writer of a recently published pamphlet, of very considerable interest,* has noticed this, and in the course of some remarks, pertinent to the subject, says: "Many years ago the Indian Government sent two officers to Europe for special training, and thereafter employed them in scientific investigation. Most excellent work they have done, and have largely cleared the ground for future workers; but, though one died years ago, a martyr to duty, his place is yet unfilled, and the other has been rewarded, after years of service, with a C. I. E. Apparently, because these two men did not succeed in unravelling at once the innumerable conditions of disease-causation in India, the authorities are disgusted." Such a complaint should be impossible: we want many more, not fewer, such workers.

One of the highest scientific authorities in India, himself unconnected with the Indian Medical Service, wrote to us recently as follows: "If a man makes himself an expert he is punished and his promotion stopped. He is a constant source of annoyance to the powers that be, by his advocating subjects and necessities beyond their comprehension. It is an easy matter to dispose of him and his demands by saying the country is too poor to go in for scientific luxuries. The time comes when cholera, plague, plant-disease, cattle disease, &c., force our rulers to take a different view. Popular opinion becomes too strong for them; but they meet the position by at once saying: We must and will import this scientific expert, so that; perchance, from his vast knowledge, he may, during a month's tour over India, solve our difficulties. Their action is hailed as that of great statesmen, few being able to see that we have in India scientific men of quite as good, if not better, standard than at home. All our men want is opportunity and encouragement in order to show the comet-like exploration of the foreign scientist in their true light." That there is a strong feeling of bitterness on this subject, at present,

* *Medical and Sanitary Reform in India.* Thacker, Spink & Co., Calcutta and London.

amongst the officers of the I. M. S., is perfectly evident, and we consider such a feeling is perfectly natural under the circumstances. But we hope and are inclined to believe that this attitude is passing away, and that we shall shortly see definite encouragement and approbation of the scientific acquirements of officers of the I. M. S. If so, it is safe to prophesy that the Government of India will be the gainer in every way.

The other point requiring notice is that, if the appointments to the Victoria Institute are to be regarded as a close preserve for the nominees of Simla, the demands of justice and efficiency will equally remain unfulfilled. It should be a standing rule of the Institute that each of the chief Governments has the right to nominate one of its officers to the working staff of the Institute. Further, we would on no account confine these appointments exclusively to the I. M. S.; on the contrary, any man, of whatever nationality or standing, who gave satisfactory evidence of powers of research, should be eligible for appointment under similar conditions. What is wanted is the best work from the men who know India best and who have shown that they mean to serve that country to the limit of their strength and ability.

For the Superintendentships of the Presidency laboratories, which should obviously be permanent appointments, it is essential that the occupants be men of wide knowledge, with ability for research and, what is no less important, ability as educational officers, so that by example and precept they may train up men who will prove themselves in time to be of the highest practical value to the Governments and Municipalities they may be called upon to serve. Three such appointments for three of the largest towns in the world cannot, from any aspect, be considered excessive.

The question of expense is naturally one which will occupy an important place in the consideration of any such scheme. Indeed, the Government of India and Secretary of State would probably sanction such a scheme to-morrow could it be shown "that no extra pecuniary burden would be incurred by its adoption."

The fact that the authorities responsible for the administration of Indian finances are in a pretty tight corner at present is patent to all; and the recent expeditions on the frontier coming on the top of plague, famine and earthquake have not tended to make matters easier. On the other hand, things are looking up somewhat, inasmuch as exchange is high, good rain has fallen and the worst of the fighting will soon be over. Unfortunately, there are signs of a serious recrudescence of plague coincident with the onset of the cold weather.

Apart from these general considerations, it is admittedly

most desirable to see whether something cannot be done in the way of retrenchment, as a set off to the working expenses of the Victoria Institute and Presidency Laboratories, and that, too, in the manner which suggests itself to every one who considers the matter from an unbiassed point of view.

Granted that ten medical officers in all are required permanently for this work : granted, also, that Government is desirous, and we believe that it is so desirous, of encouraging and raising the status of the uncovenanted branch of the Civil Medical Service, as far as possible. We say that, beyond all doubt, both of these desirable aims may be attained by the simple, legitimate and entirely unobjectionable process of handing over a certain number of the less important second class civil charges held at present, actually or 'on paper,' by the I. M. S. to the Civil Assistant Surgeons. The suggestion is not novel ; allusions to it will be found in the pamphlet before referred to, and in various articles published in the Indian medical journals during the last few years. Taking the whole of the second class charges in Bengal, the N.-W. P., the Panjab, Central India, Madras and Bombay, we are perfectly certain that from fifteen to eighteen of these might, without detriment to any one or anything, be given to men selected with great care from those now in the Uncovenanted Branch of the Civil Medical Service or to others who would willingly join under these additional inducements. The prospect of holding such charges would have an excellent stimulating effect upon that service, particularly if it were understood that the change was experimental and its permanence contingent upon its success.

Suppose fifteen such charges turned over in this manner, the money saved, inclusive of difference in pensions, would probably be not less than eight thousand rupees *per mensem*. The present *cadre* of the I. M. S. would not be interfered with, and no discontent could arise on this ground. In certain interested quarters it is the fashion to pretend that such a change would be 'unworkable,' 'risky,' and so on. A consideration of the facts that many of the uncovenanted men hold British qualifications, that some of the Indian graduates are excellent men in every way, and that there are plenty of cases where two men, not to say brothers, have gone through the same training, but, whilst one with more money than the other has thus been able to get into the service, the other, by no means his inferior in any way, has had perforce to remain in the subordinate service. This sort of thing cannot be avoided, of course ; allusion is made to it merely to emphasise the fact that the re-imported product is not *necessarily* superior to the purely home-grown ; whilst, alternatively, if the re-imported

product is good enough for anything, so to speak, it is absurd to contend that a precisely similar article (though destitute of a coloured label) is unfit for use in the manner suggested.

We hope that the Government of India will realise the advantages to be gained from such a change, and will impress upon the Secretary of State the necessity for its early adoption. According to the latest information, sufficient money will ultimately be available to secure a monthly income of six or seven thousand rupees from capital invested. We think it would be wiser, however, not to trust to this alone. Unforeseen expenses are certain to arise and, in any case, the reform above indicated is eminently desirable.

All honour to the Indian Princes and Princesses who have shewn by their enlightened action and liberality that the health of the people is a matter of practical concern to them, and have thereby earned the united thanks, not of India and Britain only, but of the whole civilised world.

ART. XII.—THE FOUNDING OF PONDICHERRY
AND THE BIRTH OF MADAME DUPLEIX.

THE peace of Aix la Chapelle left Louis XIV at liberty to realise his dreams of French aggrandisement in India. The French East India Company had been founded, under the auspices of Colbert, in 1664 ; and in the following year the French had entered into trading relations with Madagascar, occupied the Island of Bourbon and sent an ambassador to the Court of the Great Moghul. In 1668 French factories were established in India, at Surat and at Masulipatam on the Coromandel Coast. On the 1st April, 1666, the King's ambassador to the Great Moghul had written to him urging him strongly to make a naval demonstration on the coast, with a view of abating the pride of the Dutch ; but it was not till 1668 that Louis finally decided to send a fleet to the East Indies.

In May of the following year, Colbert, the Minister of Finance, prescribed the measures to be taken to provide for the armament of the fleet. His order directed that, "for an expedition of this kind, in which the majesty of the king is to be displayed, it is necessary that the vessels to be employed in the service should be of a superior class and be equipped with more than ordinary care and regard for display." In the directions given to Admiral de la Haye, who was appointed first Viceroy of the French East Indies, the king wrote, through his Minister : "His Majesty considers that the ships assembled under your flag are strong enough to resist any maritime power that may oppose his designs."

The expedition was nevertheless destined to bring misfortune and shame to all concerned in it.

The fleet sailed from Rochefort in the month of April, 1670, and halted in the bay of Saldaigne, in the Cape de Verde Islands, during the following July and August. Arriving off Madagascar in December, 1670, it remained there till the following May. A further stay of some weeks was made at Bourbon, and it was not till the end of September, 1671, that the fleet reached Surat. There the Directors sent out by the Board of the newly formed French East India Company to administer its affairs in India—M. M. Baron, Blot and Caron—landed ; and the Admiral, in accordance with his instructions, placed himself at their disposal.

"Act according to the views of the Directors," the king is reported to have said to him, "even though you should not approve of them. To all acts of war the representatives of the East India Company will be opposed. The great aim of the

expedition for the moment is to display to India the grand and imposing spectacle of a magnificent and powerful fleet. Later on it will be decided what form the action of the fleet shall take."

That operations against the Dutch were even then in the king's mind can hardly be doubted. War, however, was not declared against Holland till six months later; and in the meantime the question was what to do with the fleet. For three months, in spite of frequent deliberations, the Directors were unable to arrive at an understanding on the point. In the meantime Admiral de la Haye grew impatient and convened a council on board his ship, to which Father Ambroise, a priest who had been specially recommended to him by the king, at the instance of the Chancellor, Seguier, and M. Guillaume de Lamoignon, the President, was invited; and, after prolonged discussion, it was decided that the fleet should sail for Ceylon, where a cinnamon plantation should be established. It was further agreed that the three Directors should separate, M. Caron sailing with the fleet, M. Blot remaining at Surat, and M. Baron going on a mission to the Court of the Great Moghul.

This arrangement would seem to have shown no little acumen on the part of the Admiral and Father Ambroise, for M. Caron was notoriously friendly to the Dutch, if not in their pay, and M. Baron alone, of the three, was a man of courage or parts.

The fleet sailed from Surat in January, 1672, touching at Goa on its way to the South, and reached Calicut in February. There the Admiral was received by the Zamorin, who, with a view of freeing himself from his allegiance to the Dutch, invited him to establish a settlement in his territories and offered him a plot of land, defended by a tower, at Batacota, at the mouth of the river Palipot. Admiral de la Haye accordingly hoisted the French flag at Batacota, and the result was that, no sooner had the fleet left for Surat, than the Dutch, as a lesson to the Zamorin, destroyed the place.

On the return of the fleet from Surat, Admiral de la Haye again put into Calicut and learned what had taken place; but, though the Zamorin implored him to avenge the insult, offering him the assistance of his troops for the purpose, he did not see his way to attacking the Dutch. He, however, assured the Zamorin that his master, the King of France, should be informed of the occurrence, and that he would not fail to demand reparation from the Government of the Hague. At the same time, de la Haye entered into an alliance with the Zamorin and again set up the French flag near that of the United Provinces

It is said that, some months later, when, being in the neighbourhood of Cape Comorin, the Admiral sighted the Dutch fleet, which, though he was unaware of the fact, was on its way to Calicut to punish the Zamorin, he would have attacked them, and was on the point of making signals for that purpose, had not Caron, who had recently rejoined the French fleet from Java, protested so strongly against such a course, that, in his letter reporting the incident to the King, de la Haye wrote that the man had almost led him to think he had committed a crime in having contemplated it.

Owing to the presence of the Dutch fleet, the French were unable to effect much in Ceylon, and de la Haye, finding his supplies running short, was eventually obliged to leave for the Coromandel Coast.

He reached Tranquebar on the 13th July, and, three days later, the Capucins stationed there forwarded to him a despatch of the King, dated 20th June, 1671, informing him that he had declared war against Holland and warning him to put himself in a condition for defence.

The feelings of the Admiral, when he reflected on his lost opportunity, may be well imagined, and he was at no pains to conceal his opinion of Caron from that official. Whether the counsels of the French had been betrayed by Caron, or not—and the suspicion that they had been may seem to some to be strengthened by his accusing the Capucins Friars of betraying them—the Dutch had employed the interval since the meeting of the Council at Surat in occupying all the best positions on the coast.

De la Haye's hope of being able to re-victual his vessels at Tranquebar was doomed to disappointment. The Governor had undertaken to supply provisions for money; but he now, not unnaturally, withdrew from his undertaking. M. de Lort, in his work, from which most of our facts are taken, attributes this to the maleficent influence of Caron, who, he says, had had a private interview with the Governor. But the circumstances scarcely justify such an inference.

Foiled at Tranquebar, the Admiral set sail for the fortified town of St. Thomé, which had been surrendered by the Portuguese to the Chief of Golconda six years previously, and of the fame of which he had heard from Father Ambroise at Surat. The Governor, however, not only refused to sell him any provisions, but insulted the officers whom he had sent on shore to procure them and drove them from his presence. De la Haye accordingly determined to attack the place, and five hundred men, with eight pieces of artillery, were landed for the purpose on the 24th July. Fire was opened the next morning by the fleet and the artillery on the beach, and,

after a brief cannonade, Captain Rebrè, who was sent forward to reconnoitre, found the ramparts deserted and the gate undefended ; whereupon de la Haye entered the town with the entire force. Large quantities of provisions and ammunition fell into the hands of the victors, and the Governor was compelled to humiliate himself by kissing the Admiral's feet, a punishment which M. de Lort considers to have been far too slight for his insolent conduct.

The triumph of the French, however, was of short duration. The general expectation was that re-inforcements would be sent from France, and that their success at St. Thomé would be the forerunner of more important enterprises. But these hopes were doomed to disappointment. In the excitement of his victories in Holland, Louis appears to have forgotten his Viceroy in the East Indies, and, after fighting six battles by land and sea with varying success, de la Haye, with his little band of 600, found himself blockaded by the Dutch fleet and besieged by a Mahratta army 10,000 strong. Reduced to the last extremity by famine and want of ammunition, he was compelled to capitulate on the 6th September, 1674, after an occupation of twenty-six months.

But ingloriously as it thus terminated for France, the expedition was not destined to be wholly without enduring result. It was, in fact, the disaster at St. Thomé that, thanks to the enterprise, the energy and the gallantry of Francois Martin, led to the first occupation of Pondicherry.

Francois Martin was the son of a Parisian tradesman and was born in the year 1635. The sudden death of his father leaving him unprovided for, he found himself compelled in his eighteenth year, to take employment as an assistant in the warehouse of a dealer in colonial goods. As time went on, he gained the confidence of his employers, in whose behalf he made several voyages to the Low Countries ; and it was not long before he found an opportunity of turning to account the knowledge of Eastern trade which he thus acquired. When the French East India Company was formed, he had lately married, and, learning that the Directors of the Company were in search of qualified employés, he offered them his services and was engaged as a junior merchant. He sailed from Brest in the Spring of 1665 ; and, after being employed first in Madagascar and then at Surat, came to Masulipatam. There he met M. Baron, who had been called by Admiral de la Haye to the Coromandel Coast, and was taken into his confidence.

After the capture of St. Thomé, the Admiral summoned Baron to his side, and the latter took Martin with him. When supplies ran short, it was mainly to the efforts of these two men that de la Haye was indebted for the re-victualling of

the place and thus enabled to prolong his resistance ; and, early in 1674, when the end was approaching, he charged Martin with the task of looking for some spot on the coast, further to the South, wherein to take refuge and establish a colony.

Martin, accordingly, with sixty other Frenchmen, set sail from St. Thomé, in a ship called the "Diligent," and, eluding the vigilance of the Dutch, landed at Pulchery, a fishing village, some thirty leagues from St. Thomé. There, after the capitulation, he stationed himself, with his little band, while Baron retired to Cuddalore, where Sirkan Soude, the Governor of the country on the part of the King of Vizapur, had his residence.

Being jealous of the chief of Golconda, who supported the Dutch, the King of Vizapur, says M. de Lort, was easily persuaded by Baron that his interest lay in an alliance with the French ; and, had Louis listened to Baron's eloquent representations, a treaty might have been concluded by which France would have obtained the Coromandel Coast together with the suzerainty of both Vizapur and Golconda. Louis, however, looked coldly on the project ; and ultimately Baron returned to Surat in October, 1675, to die there, eight years later, broken down by the climate and disappointment.

In the meantime, the indomitable Martin, cast upon his own resources, applied himself diligently to the difficult task of securing the permanence of his enterprise at the future Pondicherry. He took every opportunity to add to the number of his followers. Men from the Company's ships were induced by him to throw in their lot with the new colony, and even officers of rank were, from time to time found willing to join it. A mission was despatched by Martin to Madras, and one of its results was that its members formed matrimonial alliances with respectable Portuguese families settled in that city, an example which was, no doubt, followed, later on, by others among the colonists. But, in spite of all Martin's efforts and the success which attended them, Pondicherry continued to be neglected by the French Government, and twenty years had hardly passed by before history repeated itself. In 1693 the place was besieged by the Dutch ; after a desperate defence its garrison were compelled by famine to surrender, and Martin returned to France. There he spared no effort to convince the Company of the importance of re-establishing the colony whenever the fortunes of war should render such a course possible.

The opportunity was not long delayed. In 1697 the peace of Ryswick restored Pondicherry to the French, and in 1699 Martin was re-instated in his position of Governor and provided with ships to take out the establishment and stores necessary for the resuscitation of the colony.

On board one of these ships there sailed, as surgeon, a certain

Jacques Theodore Albert, whose father before him had been a surgeon in the Company's service, and whom Martin persuaded to remain at Pondicherry. In 1705 this Jacques Theodore Albert was deputed to Madras, and there, shortly afterwards, he married a young lady named Elizabeth Rose de Castro, but baptized as Joanna, the daughter of one Thomas Lopez de Castro, a Portuguese, by an Italian lady. The first offspring of this union was a girl, who was baptised on the 2nd June, 1706, and who was the future famous Madame Dupleix.

The writer of the article on Dupleix in the *Calcutta Review* for July, 1893, speaks of Madame Dupleix as Marie Françoise de Castro, who was born on the 18th March, 1708, and remarks that, notwithstanding the difference in the Christian name, there is no doubt that it was this child who became the historical lady in question. But the only reason which he gives for this assurance is the insufficient one that, in the certificate of her marriage with Dupleix, her age is given as 33 years, which, as the marriage took place in 1741, would carry back her birth to 1708. As a matter of fact, however, the future Madame Dupleix was baptised, not as Marie Françoise, but as Jeanne, after her mother's baptismal name; and, as her baptism, the certificate, of which exists, took place on the 22nd June, 1706, she could not have been born in 1708. The certificate, which is signed "Fr. Thomas—Cap. Apostolic Missionary; Cuperly and Albert," runs as follows:—

"To-day, the 2nd June, 1706, I baptised a girl named Jane, the daughter of James Theodore Albert and of Elizabeth Rose de Castro, her father and mother. The Godfather was M. Francis Cuperly, Merchant of the Royal French Company, and the Godmother was Madam Jan de Castro."

To this it may be added that the M. Francis Cuperly here mentioned was a nephew of Madame François Martin, the wife of Francis Martin, the founder of Pondicherry, whose maiden name was Marie Cuperly, and the Godmother, Jan de Castro, was the grandmother of the infant.

The future Madame Dupleix was thus a Creole by birth, her father being a Frenchman and her mother a Portuguese of mixed descent. The writer of the article on Dupleix, just referred to, attributes the doubt that has arisen regarding her identity to the fact that, at the time of her first marriage, to M. Vincens, she was only eleven years of age. But the date we have given, about which, in the face of the baptismal certificate, coupled with the fact, admitted by the writer in question, that she was always called Jeanne in documents, and that Jeanne, being the baptismal name of her mother and grandmother, as well as the feminine equivalent of that of her father, was specially appropriate to an eldest child, there

can hardly be any doubt, makes her thirteen years old at the time of her marriage.

The certificate of the first marriage runs : " Jeanne Albert married, on the 5th June, 1719, M. Vincens, native of Montpellier, a member of the Upper Council of Pondicherry."

Francois Martin terminated his earthly labours in the same year in which the so-called Begum was born, dying on the 30th December, 1706, at the age of 71. His remains were, at his request, interred in the centre of the Citadel of Pondicherry, of which he had laid the foundation stone in 1701, and at the inauguration of which he had had the satisfaction of presiding, on its completion, in the August before his death.

At the time of Martin's death Pondicherry had risen from an obscure fishing village to an important town of 40,000 inhabitants, a sufficient testimony to the success with which he had administered its affairs for an uninterrupted period of thirty-two years.

ART. XIII.—CHAUCER'S COUNSEL.

The night had been a sea of trackless streams,
Possessed by navies of conflicting dreams,
Till morning, like a herald breathing peace,
Lulled the disorder ; and the welcome beams

Part-lit my chamber, while among them stood
Phosphor, and motioned me to such a wood
As he who sang the Marguerite, so loved
In spring-time ; there I, following as I could,

Saw glades and alleys, and, across them drawn,
Soft gossamers that wavered in the dawn,
And dewy slopes, with bracken hung, above
The lines of watercourses, to a lawn

Where had been set a garden ; none more fair
In Gulistan, or that august repair
In which our Milton saw, with inward eye,
The cedars shining in the golden air

Of the first morning ; and the light was poured
On wealth of bloom and bud ; and all the sward
Was starred with beds of coloured flowers that men
Had planted—to the glory of their Lord.

But I, with shame, said : “ Wherefore came I here
Who cannot show such things ? ” To which a clear
Voice of a hidden speaker, hard at hand :—

“ Do what thou canst, for truth there is no fear.”

And, as I lay and hid my face, “ Arise ! ”

Once more the voice, “ Follow, with downward eyes
The path thou findest, making no pretence,
And gather, if so may be—a modest prize.”

I heard the words ; I rose and took the Quest,
And, as I wandered, gathered to my breast
Such things as pleased me, till the way returned,
And the trees blotted all the crimson West.

Then, when I found the garden still a-glow,
I sighed to think that I had loitered so ;
And, casting to the ground the things I had,
I loathed the weeds that made so poor a show.

“Only,” I said, “if some one, passing by,
Might say—The harvest of a loving eye
That would not have been brought, except by one
Whose looks were tutored by humility.”

So I. There came no answer from the wood,
Nor knew I if my speech was ill or good,
But the cool moonlight shimmered ; and in front,
Flooded with light, a marble palace stood.

Domes cut the sky with curves erect and pure,
The pinnacles were few, the windows fewer,
The portal arch rose high, and underneath
Transparent blackness filled the embrasure.

I entered, and beheld an eight-side screen
Of jewelled frame, with fretted work between,
Midmost of which there stood, in postured calm,
The seeming image of an ancient Queen.

Yet had it little form or comeliness,
And what it stood for I could only guess ;
I judged it to be human, by the shape,
And took it to be woman, from the dress.

Moreover, many paps were on the breast,

And on the head a crown, made like a nest

Where pigeons dallied ; but the eyes were blind,

And pulsing throbs, with motion manifest,

Under the robe made never-ending rout ;

But, if the Thing lived or lived not, was doubt ;

And many worshippers, in various guise,

Thronged in the murmurous precincts round about.

Some seemed to render what must surely be

A reasonable service ; for—" In thee "

They said, " we hail the source of all,

And presentation of the Deity ! "

And these were grave and earnest : but a crowd,

With brazen brow and voices straining loud,

Sang to each other of her attributes,

Their heads in mutual admiration bowed.

And some wove garlands, bright with silken links,

And some brought wine-cups, beaded at the brinks ;

The image heeded not their sacrifice,

But stared with stony eyeballs, like a sphinx.

Such was the mood of either company,
Each only saw what each desired to see ;
I noted them, unnoted ; until one
Who stood aloof from either, turned to me.

His forehead with a single fillet bound,
He looked as if with vernal sunrise crowned ;
And yet, for all the glory of his brow,
His modest gaze was bent upon the ground.

"Son," said he, "thou art dazed and sad of cheer,
Yet, sad or glad, art honoured to be here ;
Remember what I told thee in the wood ;
Do what thou canst, for truth there is no fear."

"This is that Venus who will be, and was,
Whom all men see that through her temple pass,
Not fitly lauded for herself alone,
But made a goddess in an Age of Brass."

If she be rough, endeavour to reclaim her ;
If she be wild, thy task it is to tame her ;
But if thou canst not have thy will of her,
It nought avails to flatter or to blame her.

She is not kind or cruel ; in the May

I loved to sing, her creatures all are gay ;
The pairing birds make merry in the boughs,
And lovers kiss and sing, as glad as they.

But where the desert-sand is hotly tossed,
Or in blank regions of eternal frost,
Where nothing lives but man the wanderer,
Is joy to be forgotten or love lost ?

“ The globe that bred us cannot gain our trust,
With crumbling core and weak perfidious crust,
Reckless of what we feel, or fear, or think,
It rose in vapour and returns to dust.”

“ Man, love and joy ! That three-chord harp, he said,
Strike as thou mayest ; be faithful, hand and head ;
Follow thy spirit, and forego thy lust,
The truth shall thee deliver ; it is no dread.”

THE QUARTER.

A DEVASTATING earthquake, embracing an unusually extensive area ; a series of fanatical riots in the Capital ; the dastardly assassination of two Europeans, one of them an official occupying a position of considerable importance at Poona, and a widespread rising of the tribes on our North-West Frontier, necessitating military operations on a grand scale, would alone suffice to render the past three months memorable in the annals of British rule in India.

The great earthquake of the 12th June, which was felt with destructive violence from the Valley of the Brahmaputra to Calcutta in the South and Monghyr in the West, and with greater or less force over a much wider area, and the tremors set up by which were detected by seismometers at places as distant from the source of the disturbance as Edinburgh and Grenoble, began in Assam, not to be too exact, at a few minutes after five o'clock in the afternoon, the shock lasting for about three minutes, and the movement radiating from a point which has not yet been accurately determined in the Garo or Khasia Hills. At Shillong, in the latter hills, every masonry building of any importance, including the houses of the principal residents, was levelled with the ground, and some twenty persons, including two Europeans, were killed, while in the neighbourhood of Shella a large portion of the hill side, there very precipitous, subsided, together with several villages, a great part of the village of Shella itself was destroyed, and, it is estimated, some six hundred persons lost their lives. At Tura, in the adjoining Garo range, as well as at Sylhet, Kuch Behar, Tipperah and Gowhatty, the destruction of buildings was hardly less serious, and in the district of Sylhet the loss of life also was very great ; while at Darjeeling, Jamalpur, Mymensingh, Dacca, Rampore Beaulia and several other places in the neighbourhood, and at Moorshidabad and even Monghyr, South of the Ganges, the destruction was considerable, and at Moorshidabad forty or fifty persons were killed. In Calcutta few buildings entirely escaped injury ; many, including the General Hospital, the Police Office and the Town Hall, were badly damaged, and several were completely wrecked ; but happily only three lives were lost. Great damage was done to the Bengal-Assam Railway line, the opening of which will be considerably delayed in consequence, and in the Khasia Hills and parts of North-East Bengal, extensive depressions and

upheavals of the land appear to have taken place. Altogether it is estimated that some 1,500 lives have been lost, and the damage to property, public and private, done by the convulsion probably represents a sum of at least two crores of rupees.

Owing partly to the occasion with which they were associated, and partly to a widespread conviction that they were prompted by political motives, if not the result of a political conspiracy, and probably the work of hired assassins, the murders at Poona have created a more profound sensation, both in India and in England, than any event of a similar kind in recent times.

The victims, Mr. Rand, of the Bombay Civil Service, and Lieutenant Ayerst, were returning in open carriages, at about midnight of the 22nd June, from the levée held by the Governor at Ganesh Kind, in honour of the Jubilee, the carriage occupied by Lieutenant Ayerst and his wife immediately following Mr. Rand's carriage, which was preceded by one occupied by Lieutenant Lewis. On Mr. Rand's carriage reaching a part of the road that is lined with trees, a man clambered up behind and fired at him with a pistol in the back. The act was witnessed by Mrs. Ayerst, who, however, was under the impression that the man had discharged a cracker; and, a few seconds afterwards, another man got up behind Lieutenant Ayerst's carriage and shot him through the head.

Mr. Rand had had charge of the plague operations at Poona, which had been the subject of much popular indignation and much inflammatory writing in certain of the native newspapers of Poona and Bombay; while Lieutenant Lewis, who had been stoned in the streets, a day or two before the fatal night, had been employed in the Segregation Camp. Lieutenant Ayerst, on the other hand, had not been connected with the plague operations in any way, and the inference is that he was probably mistaken for Lieutenant Lewis.

The assassins made good their escape; and, notwithstanding that a reward of Rs. 20,000 has been offered for information that might lead to their detection, every effort to discover them has so far proved unavailing.

The murders, it should be added, had been immediately preceded by the extensive circulation in Poona and its neighbourhood, of a printed leaflet, in the English language, of a highly seditious and inflammatory character, the authors of which have not been discovered, but which, from internal evidence, it can hardly be doubted, was of Mahratta origin.

Drastic measures have in the meantime been adopted by the Government in connexion with the outrage and the incitements by which it was preceded. A special punitive police force has been quartered on the City of Poona, at

a cost to the Corporation of over a lakh and half of rupees a year. Two notoriously ill-affected members of the Natus family, who are inamdars of the Government, have been arrested, apparently on suspicion of having been concerned, in some way, with the assassinations, under an old Regulation corresponding to Bengal Regulation III. of 1818, which enables the Executive Government, for high political reasons, to arrest and detain, on its own motion and during its pleasure, any persons it may think fit, independently of any intention to bring them to trial, and their property has been confiscated. At the same time, one Bal Gangadhar Tilak, one of the elective members of the Local Legislative Council, and proprietor and manager of the *Kesari* newspaper, and several others, have been arrested and charged with the publication of writings calculated to excite disaffection, under Section 124-A. of the Indian Penal Code; and, in one of those cases, the defendants have been convicted, and sentenced, one to transportation for life and the other for seven years.

In the absence of all information as to the nature of the evidence against the Natus, it would be premature, to express an opinion on the merits of the action taken against them; but it seems very doubtful whether, without clear proof that the outrages were the result of a wide spread conspiracy, or that there is such a conspiracy to shield their authors, the imposition of a punitive police force upon a large population like that of Poona is politic. Regarding these outrages, the writer of the paper on *Indian Affairs* in the *London Times* says, very justly:—

“We may be sure that the Government of India will get at the truth, and that if there was anything approaching to a class conspiracy it will be dragged to light. Till then the crime stands in the same category as the assassination two days previously at Peshawar, and of the Mussulman riots in Calcutta—a crime prompted partly by religious or caste fanaticism, partly by lawless ferocity; one of a series in the long conflict between Indian traditions and Western civilization.”

There seems, however, to be some probability that the feeling produced in the minds of the people of England by these events, by the attitude of the native press, and by the general state of unrest and hardly smothered discontent that prevails throughout India, will lead to important changes in the tone of our administration of the country.

Poona is not the only place in India where the Jubilee was the occasion of a murderous outrage. At Peshawar on the morning of the 21st June, Mr. Ross, the head clerk of the Deputy Commissioner's Office, was driving home from the ceremonial, through the city, when he was shot and mortally wounded by a Ghazi from the Mohmand country.

The Calcutta riots, which began early on the morning of the 30th June and lasted throughout the whole of that, and the greater portion of the following, day, arose out of the execution of a decree of the Civil Court, awarding to the Tagore estate possession of a certain piece of land in Tallah, in the Northern section of the city, on which some Mahomedans had erected what they alleged to be a mosque, but what was, structurally, a mere hut. An application for assistance to effect the execution having been made by the decree-holder, on the ground that resistance was apprehended, the Deputy Commissioner of Police, with a small force of constables, was sent to the spot ; and possession of the land was transferred, and the hut in question demolished, without opposition, though a considerable crowd of Mahomedans had assembled in the immediate neighbourhood, on the 28th June, and the police were thereupon withdrawn.

During the evening of the 29th June, however, owing to the efforts of the late occupant and his friends, a large mob of Mahomedans again gathered on the spot, and, during the early hours of the night, set to work to rebuild the so-called mosque, or rather to erect a brick building in its place. Information of what was going on having been conveyed to the Commissioner of Police, application was made to the military authorities for assistance, and a strong body of police, headed by the Commissioner and Deputy Commissioner and supported by a detachment from the Gloucestershire Regiment, together with the Magistrate of the Twenty-four-Per-gunnahs, proceeded to Tallah, and at daybreak the mob were called upon to disperse and five minutes allowed them for the purpose. Instead of obeying this order, they pelted the police freely with bricks ; and on the expiry of the five minutes the police were, accordingly, ordered to charge, which they did with such effect that after a short struggle, the mob fled in all directions. Thereupon, most imprudently, as it seems, not only the troops, but the bulk of the police were withdrawn. The result was that, between 9 and 10 A.M., on the 1st July, the mob re-assembled in greater force than ever, and the Inspector, with his twenty-five policemen, who had been left to keep order, armed only with their batons, were compelled to take refuge in the neighbouring pumping station. There, together with the inmates of the station, including women and children, they were subjected for several hours to a regular siege. Though the mob were fired upon with a gun loaded with small shot by the Inspector, they obstinately maintained their ground, keeping up a fusillade of bricks and stones against the station ; and it was not till the afternoon that the siege was raised by a re-inforcement of police under another Inspector, and the mob, after a short struggle, dispersed.

Later in the afternoon, the rioters seem to have shifted the scene of their operations to the Machua Bazar section of the town. The Commissioner and Deputy Commissioner of Police were themselves attacked with stones, while driving through the streets in a dog-cart; shortly afterwards a large body of constables returning from the scene of disturbance at Tallah were attacked, and numerous Europeans and other Christians, of both sexes, among them two officers of the Gloucestershire Regiment were stoned, or otherwise assaulted, not only in the neighbourhood of the disturbed area, but in other parts of the town.

A large body of rioters took possession of Harrison Road, which they barricaded with municipal drain-pipes, after tearing down and making a bon-fire of the old lamp-posts; and, though the street was several times cleared by the very insufficient body of police kept on the spot, who fired on them more than once, they as frequently re-assembled in some other part of the street. At about 3 A.M. of the 1st July, however, this body of rioters seem to have dispersed, or left to swell one or other of the mobs collected in other parts of the section. Soon after sunrise of that day, an attack was made on the Raja Bazar Police station, and, the Balliaghatta station also being threatened, the Deputy Commissioner and a body of police armed with carbines loaded with buck-shot were sent to its relief. This force was attacked on its way by a large mob in Gas Street, and had to fire on the rioters before it could disperse them. Subsequently, the force having divided into three parties, one of them was again fiercely attacked and compelled to fire in self-defence; and at noon of the same day, at the junction of Circular Road with Machua Bazar, another formidable attack was made by the mob on the police under the Deputy Commissioner, in spite of the fact that they were supported by a detachment of soldiers.

The above are only a few of the more prominent incidents of the rioting, during the last day of which, it should be added, valuable service was rendered for the preservation of order by a body of the Calcutta Light Horse.

Wild rumours obtained currency regarding the number of rioters killed, which, at one time, was reported to be six hundred. According to the official report it was only eleven, while some twenty were wounded with shot; but, seeing that no fewer than thirty-four policemen were more or less seriously injured, these numbers seem disproportionately small.

Very general indignation was caused among Anglo-Indians in Calcutta by the statement, attributed, in a Reuter's telegram, to the Viceroy, that the riots were purely local and that their importance had been exaggerated. What Lord Elgin actually telegraphed to the Secretary of State, appears, however, to

have been that the Government considered the outbreak to be purely local and the published accounts of it to be exaggerated, facts neither of which can very well be disputed. As to the importance of the riots, in one of their aspects, it is so great that it could hardly be exaggerated; and it is doubtful how far the fact of their being local can be held to detract from it. Apart from the aspect in question, the rioting, serious as it was allowed to become, would be merely a flagrant instance of a very ordinary form of fanatical turbulence which is always liable to occur in similar circumstances. The fact, on the other hand, that unoffending Europeans and other Christians who were in no way concerned either with the subject of the dispute or with the suppression of the disorder, were insulted and in many cases brutally assaulted by Mahomedans of the lower class, whenever a favourable opportunity for the purpose presented itself, merely because they were Europeans or Christians, is without precedent in the history of Calcutta, and is proof of the existence of a feeling which, unless it is checked, is full of menace to the peace of the country.

It is clear, moreover, even from the official reports, that, though the police had little difficulty in dispersing them when, ever they attempted to do so in reasonable force, the mob were in practically undisputed possession of a considerable portion of the Northern Section of the town for upwards of thirty-six hours; and one cannot help reflecting what would have been the state of affairs if, instead of being directed to the limited purpose of vindicating what they believed to be a religious right, and, to that end, of defying and resisting the representatives of authority, and insulting and assaulting Europeans, their efforts had been directed to general plundering and destruction of property.

Unqualified praise has been bestowed by the Bengal Government on the manner in which the disturbance was dealt with by the police authorities. The opinion thus implied, however, is hardly that which a study even of the official reports is likely to have produced on most persons. Nor, apparently, is it the opinion which such a study has produced on the Government of India, who virtually censure the Commissioner of Police for leaving a weak guard without fire-arms at Tállah after what had taken place on the night of the 29th and early morning of the 30th June, as well as for the inordinate delay that occurred in relieving it. To the writer, it seems hardly less extraordinary that nothing effectual should have been done to prevent the mob from re-assembling on the site of the alleged mosque on the evening of the 29th June; still more extraordinary that they should have been left in undisturbed possession there for several

hours, and most extraordinary of all that, after they had been dispersed, on the morning of the 30th June, no effective steps should have been taken to prevent their re-assembling later in the day.

With greater justice the subordinate members of the police force have been praised by both Governments for their conduct during the riots. But even here some qualification seems to be required. It is quite true that, wherever the police were brought face to face with the rioters in force, they behaved admirably. On the other hand, it seems probable that among the members of the force on street duty at Tallah and in the neighbourhood on the 29th June there must have been many who knew well enough what was brewing; and, if such was the case, it would seem to follow that either they or their superiors must have egregiously failed in their duty.

Some days after the suppression, or the subsidence, of the disturbance in Calcutta, an attempt was made by the work-people from certain of the mills above Barrackpore to march to Calcutta for the purpose of renewing the rioting; and, on their way, a body of them made a series of attacks on the premises of the Alliance Mill, the hands employed in which had held aloof from the movement; but they were fired upon with shot and driven off by the European employés at the Mill, and the whole of the rioters were eventually turned back by police and troops sent out for the purpose from Barrackpore.

On the 2nd July, when the rioting had ceased, but there were still apprehensions of its renewal, certain leading Mahomedans of Calcutta, apparently under an erroneous impression, issued a leaflet to their co-religionists, informing them that the decree-holder had agreed to surrender the land to them. This, however, was promptly repudiated by the gentleman in question, who, as a matter of fact, had not the legal right to make such a surrender; and a second leaflet was subsequently issued by six out of seven of the signatories of the original document, explaining that he had only a life-interest in the land, and that a mosque could not lawfully be erected on it, or on any other land not permanently appropriated to the purpose.

The tribal upheaval on the North-West frontier, which, from first to last, has involved five distinct points, and has necessitated the despatch to or across the border of some of 60,000 men, began, on the 10th June, with a treacherous attack by the Madda Khels, at Maizar, in the Tochi Valley, on Mr. Gee, the Political Officer, and a body of some 300 native troops with their officers who had accompanied him as escort. Mr. Gee was on a purely peaceful errand, and the party were being entertained by the Maliks when the attack was made.

The officers with the single exception of Mr. Gee, were all shot down ; and the force, taken by surprise, was compelled to retreat with a loss of some fifty killed and wounded.

A strong punitive expedition, which was promptly sent into the Valley, met with no organised resistance, and destroyed the strongholds of the offending tribe, who ultimately submitted.

Hardly had this force completed its work, when, on the night of the 26th July, the British posts at Malakand and Chakdara, in the Lower Swat Valley, were attacked by the local tribes in great force ; and it was only after severe fighting, extending over several days, and after severe losses on our side, including an ominously disproportionate number of officers, that the enemy, 3,000 of whom are believed to have been killed or wounded, finally dispersed. The rising in the Swat Valley, again, was followed, on the 8th August, by a rising of the Momunds, who, to the number of 4 or 5,000, attacked the Fort at Shabkadr, but were driven off after a sharp conflict in which four British Officers were wounded and some sixty non-commissioned officers and men killed or wounded. Then, some twelve days later, came a rising of the Masagais in the Kurram Valley, which, however, does not appear to have assumed any great importance, and on the 22nd August the Afridis, whose attitude had, for some days, been reported as threatening attacked the Forts in the Khaibar in great force, and, after a short resistance on the part of the small garrisons of the Afridi levy by whom they were held, captured and burnt them, in spite of the close neighbourhood of a force under General Elles which must have numbered at least 8,000 men. In addition to these more or less formidable risings, there have been disturbances on the road between Kelat and Quetta, and three Sirdars of that part of the country have been arrested (one of them was subsequently released) under circumstances that have not yet transpired.

This succession of attacks seems to point to the operation of some common ferment, rather than to a conspiracy ; and that ferment is not improbably to be found in a wildly exaggerated estimate of the significance of the victories of the Sultan's forces over Greece, a country which, as one of the Calcutta daily papers well points out, is still regarded by ignorant Mahomedans as typical of all that is powerful in the Occident.

The fact that many of the Amir's subjects were known to have taken part in the risings led the Government of India to address a strong letter of remonstrance to that ruler, who, in his reply, which was made with remarkable promptitude, denies that any of his troops joined in the movement and warmly

repudiates all sympathy with it or its authors. Previously to his receipt of the letter of the Government, but after its despatch, it should also be stated, the Amir issued a proclamation warning his subjects against taking part in the movement.

Lord George Hamilton made his Indian Budget Statement in the House of Commons on the 5th August. From the figures given by him it appears that the total loss to the State under the head of famine, including the consequent deterioration of the opium revenue, in the past year, amounted to Rx. 5,444,200, and, on the whole account, it was expected that the anticipated surplus of Rx. 463,100 would be converted into a deficit of Rx. 1,593,500. As regards the accounts of the current year, he said : " The revenue this year was taken at Rx. 59,629,700, and the expenditure was taken at Rx. 62,093,700, or Rx. 2,072,600 more than the revised estimate of last year. The deficit was thus Rx. 2,464,000, or Rx. 477,100 more than last year. This increase in the deficit was mainly due to the increase in the expenditure on famine relief out-weighing the augmentation hoped for in the revenue. The revenue, taking the land-tax, the salt-tax, and various other things, was better by Rx. 2,485,300. On the other hand, there were certain deductions to be made on account of a falling off from other sources of revenue amounting to Rx. 889,800. Therefore, the net revenue was better by Rx. 1,595,500. The increase in expenditure on the famine account was Rx. 1,653,300 ; and other charges were slightly in excess of last year by the sum of Rx. 477,100. Therefore, summing up the three years, we had a surplus in the first of Rx. 1,534,000, a deficit in the second of Rx. 1,593,000, and an estimated deficit in the third of Rx. 2,164,000, making a total excess of expenditure over income for the three years of Rx. 2,464,490. He had just received a telegraphic communication from the Government of India, estimating that the charges this year would be increased from famine, railways, the expedition to Malakand, &c., by Rx. 1,460,000. Against that there must be placed the rise in exchange and the better harvest ; and if these gains were realised he was hopeful that at the close of the year the deficit would not be much in excess of that budgeted for at the beginning of the year."

A Resolution moved by Mr. MacNeill, " That this House views with grave disapproval the fact that famine, plague and pestilence in India have been seized by the Indian Government for an attack on the freedom of the Press in India, and for the revival of the system of arrest of British subjects under the law of *lettres de cachet*, and the indefinite imprisonment without trial of persons thus arrested ; and desires to place on record its conviction that the only safe

foundation for Government in India is to be sought in the extension to British subjects in India of the full privileges of the British Constitution," was rejected by a majority of 77 to 17, after a debate, in the course of which Lord George Hamilton vindicated the action of the Government of Bombay and the necessity of the law under which they had acted in arresting and deporting the brothers Natu, regarding whom he said they were very notorious men, and it was not the first time that they had come under public notice. "They had, in fact, been prime movers in a great deal of disturbance ; but he could not, as the object of the Government was to do justice, state the reasons which had induced the Government to arrest them. He believed, however, that they were rightly arrested, and that by that means the Government of India might achieve its end, which was the unravelling of this foul conspiracy."

At an earlier period in the evening the Secretary of State had made a statement to the effect that certain libellous allegations regarding the conduct of the European soldiers employed in the plague operations at Poona which had been made by one Professor Gokhale in the Conference Room of the House of Commons, had been formally and unconditionally withdrawn ; and on the previous day Sir William Wedderburn had apologised to the House for the part he had taken in introducing Professor Gokhale to its members. Lord George Hamilton also read out to the House facts and figures which tended to show that the petition of the Dekkan-Sabha regarding the plague operations at Poona was, to all intents and purposes, a bogus document.

The monsoon, though it set in late, has so far proved, on the whole, very favourable to agricultural operations throughout the greater part of the country ; and, though prices have not yet materially fallen, there has been a reduction of about one-third in the number of persons on relief-works. Should the weather continue favourable, it may be confidently expected that the coming cold weather will see the end of the prevailing distress. The plague, on the other hand, though it is officially reported to have disappeared from Sind, still smoulders in Bombay, has broken out again with renewed virulence in Poona and Kirkee, and is extending along the line of the South Mahratta Railway in a way that points to the urgent necessity of vigorous measures for the protection of Southern India.

Among the legislative measures of the Quarter, the most important is the new Cantonment Bill, which was introduced in the Viceregal Council on the 8th and passed on the 22nd July. The Act, which consists of three clauses, empowers the Govern-

ment to make rules for the prevention of a certain class of diseases and extends to medical officers the powers in the matter already possessed by Commanding Officers. An important series of new Rules have been framed under the Act. The Bengal Council has passed the Bill to amend the Law of Partition.

Only the briefest glance can be given at Home or Continental affairs. Her Majesty's Diamond Jubilee was celebrated throughout England and Scotland with equal enthusiasm and success, not the least remarkable feature connected with the proceedings being the excellence of the official arrangements, owing to which, even in the Metropolis, there were no serious accidents; and the most striking of the displays of which the celebration was the occasion being the great Naval Review at Spithead, which seems to have produced a great impression on the Foreign visitors.

The peace negotiations between Turkey, Greece and the Powers continue to drag their slow length along, the crux of the situation being, as Lord Salisbury's statement in the House of Lords shows, exactly what we anticipated in our last retrospect.

"The territory acquired by the Turkish Army having been assigned to Greece by international arrangement," said the Prime Minister, "the Powers had from the first held that Thessaly was not to be retroceded to Turkey, and generally that Greek communities who had not been under Turkish rule were not to be placed under it. On the other hand, it was recognized that the Sultan's demand for a rectification of the frontier in a strategical sense was a reasonable one; and the Ottoman Government had accepted the strategical line traced by the Military Attachés of the various Embassies, and consented to relinquish Thessaly to Greece. Then, according to modern precedents, Turkey had a right to an indemnity for the war which she did not certainly bring on, while the payment of such an indemnity by Greece was accompanied by many difficulties; and the Turkish Government proposed that, apart from the general territorial arrangement, there should be a reservation of strategical points to be held until the indemnity had been paid. As to that proposal he could not at present say what the determination of the Powers would be. Difficulty had also arisen as to the question of the German bondholders, which might lead to considerable delay; but he thought they were in sight of a probable issue by which enough money would be provided to satisfy such an indemnity as the Powers deemed just; and when that was done he hoped that all the Greek population of Thessaly would return to Greek dominion."

The fact, apparently, is that Germany, while strongly supporting the Sultan's claim to an indemnity, insists no less strongly on the bondholders being secured, as a condition precedent of any arrangement for guaranteeing its payment. Great Britain is said to have made a proposal for limited international control over the Greek finances which would reconcile the two interests, and it is reported that Russia and France are inclined to accept this. In the meantime there are no signs of the Sultan's Armies releasing their hold on Thessaly, and, indeed, there would seem to be no particular reason of either justice or policy why they should do so.

The South African Committee of Enquiry have submitted their report, in which they strongly condemn the action of Mr. Rhodes for subsidising, organising and stimulating an armed insurrection against the Transvaal Government, and for deceiving the High Commissioner, his colleagues in the Cape Ministry and the Chartered Company. At the same time they exonerate Mr. Chamberlain, the Under-Secretary for Colonial affairs, and Lord Rosmead, but censure Sir Graham Bower and Mr. Newton for not communicating to the High Commissioner the information that had come to their knowledge.

A motion by Mr. Stanhope condemning the action of the Committee was rejected by an overwhelming majority, Sir W. Harcourt supporting the Government, and the Government have announced their determination, out of regard for Mr. Rhodes' past services, not to punish him, and to amend, but not abolish, the Charter.

One of the most important events of the period has been the denunciation of the Treaties of Commerce with Germany and Belgium, as a consequence of the offer made by Canada to give certain advantages to British goods in her tariff, and in accordance with an undertaking of Mr. Chamberlain that no commercial treaty should be allowed to circumscribe the rights of the self-governing colonies to frame their own fiscal policies.

The Egyptian forces under General Grenfell have resumed their advance in the Soudan and captured Abu Hamed after severe street-fighting. Among other prominent events of the period under review have been visits of the Emperor of Germany and President Faure to St. Petersburg, the latter of which was the occasion of popular demonstrations of a most effusive character; the visit of the King of Siam to England, and of the Duke and Duchess of York to Ireland; the assassination of the Spanish Premier, Canovas, by a socialist, who was arrested, and has been tried, condemned and executed; the conclusion of a treaty between Great Britain and King Menelek, a great strike of engineers in England, and the sub-

mission to the United States Congress of an important message on the Currency question, in which the President insisted on the necessity of establishing the Currency and Banking system on a better basis, and urged that the question should not be postponed till the regular Session of the Congress. The House adopted a Resolution authorising the appointment of a non-partisan Commission to recommend a plan for this purpose; but the Resolution was not accepted by the Senate, and the Houses adjourned.

Parliament was prorogued on the 6th August. It is understood that Sir William Lockhart succeeds Sir George White as Commander-in-Chief in India; and Sir Evelyn Wood becomes Adjutant-General and Sir George White Quarter-Master-General of the British Forces in the United Kingdom.

The obituary of the past three months includes the names of Lieut.-General E. O. Hewett, C. M. G.; Baron Oscar Dickson; Mr. Barnard Barnato; Major-General Beville, C. B.; Colonel Bunny (killed at Maizar); Professor Fresenius, the celebrated Chemist; Bai Motebai Wadia, and the Rani Sarnamoyi, famous for their charities; General Sir F. F. Maude, V. C., G. C. B.; Captain Boycott; Dr. Steenstrup, the Zoologist; Mrs. Oliphant, the popular Novelist; Admiral Sir W. R. Mends; General Sir R. Cadell, K. C. B.; Lt.-General C. E. P. Gordon, C. B.; Surgeon-General Herbert Taylor Reade, C. B.; Mr. Henri Meilhac, the Dramatist; General Sir R. D. Kelly; Major-General Sir George J. Smart; Captain the Hon. Denis Bingham; Mr. Mundella; Jean Inglow; Sir John Skelton (the Shirley of *Fraser and Blackwood*); Sir John C. Bucknill; Mr. Robert Blair M'Cabe; Mr. Samuel Laing; Senor Canovas, the Spanish Premier; Signor Costa, the Bishop of Wakefield; Sir Walter de Souza; Surgeon-General Cooke.

September 10, 1897.

SUMMARY OF ANNUAL REPORTS.

Administration Report on the Jails of the Punjab for the year 1896. By Surgeon-Captain R. J. Macnamara, Officiating Inspector-General of Prisons, Punjab. Lahore: The "Civil and Military Gazette" Press, 1897.

THIS Report was submitted with such commendable punctuality as to reach the Government on 1st May, the very day on which it was due, for which H. H. the Lieutenant-Governor very graciously thanks Surgeon-Captain Macnamara, as he does also for the energy and ability with which that Officer has carried on his duties as Officiating Inspector-General during the 8½ months he has held charge.

The total population contained in the Punjab Jails was as follows:—

Remaining on 31st December	1895	...	11,863
"	1896	...	12,756
Average number during	1895	...	11,722
"	1896	...	12,240

or an increase, in the latter year, of 893 and 518, respectively; the "admissions" during the year showing an increase of 593 when compared with 1895, and 2,935 when compared with 1894. This fact is attributed, probably justly, to the great pressure of scarcity. The increase is principally under cases of "Theft," &c. (351), and "Housebreaking," &c. (286). An additional argument in favour of the supposition that want has led to crime is to be found in the fact that prosecutions for "Bad livelihood" and "Belonging to a gang of thieves" diminished by 606 cases. Evidently loose habits alone were found insufficient to support life. Difference of procedure, too, is very marked in the case of the last named prosecutions, as of the decrease of 606 cases, four districts alone, Jhelum, Peshawar, Dera Ghazi Khan and Bannu, furnish no less than 590. These are, however, matters more directly concerning the Criminal Administration of the Province.

Glancing at the list of "Previous Occupations" of convicts, it is satisfactory to find that "Persons in Service," &c., have diminished by 604, but, on the other hand, the fact that "Persons engaged in Commerce," &c., have increased by 380, looks bad for commercial morality.

Recognition of accused parties, in order that previous convictions may lead to enhanced punishment, appears to have been fairly frequent, as we find that, out of a total of 22,069

admissions, 2,414, or 10 per cent., were so identified, in addition to 108 who were afterwards proved to be "Habituals." Dr. Macnamara makes a suggestion which appears well worth consideration, *viz.*, that the 1,800 "Solitary Cells" would be much more usefully employed in segregating "Habituals" than in giving effect to sentences of solitary confinement.

The "Mark" system of rewarding prisoners for good behaviour seems to have given rise to much diversity of opinion as to its effect. The Lieutenant-Governor thinks that the gaining of marks and thus cutting short his term of imprisonment must present itself so favourably to the criminal, as to ensure increase of good behaviour, while Dr. Macnamara thinks that either the system is not sufficiently understood to be so much appreciated, or the convict is not so hardly treated during his detention as to cause him to sacrifice all considerations of personal comfort, &c., in order to escape therefrom as speedily as possible. There would, however, appear to be a third view which might be taken of the matter, and on the principle of the old proverb, "a bird in the hand is worth two in the bush," the convict might prefer the illicitly and even dearly purchased luxury of indulgence in tobacco or opium, in the present, to the somewhat hazy prospect of diminution of his days of incarceration, in the dim and distant future.

There were 22 escapes during the year, as compared with 18 in 1895, 15 from inside and 2 from outside the jail walls; and it seems that it is the recent arrivals who are most anxious to regain their freedom.

Some of the methods adopted for escaping were extremely ingenious, the cleverest, perhaps, of all being by throwing a rope over the outer wall and then securing the other end to the drainage grating which lay at the man's feet.

The 15 extra-mural escapes were all attributed, in a greater or lesser degree, to carelessness on the part of the guards. Ten re-captures were made from among the year's escapes. 2,293 Departmental punishments were inflicted on a total number of 1,570 employés; but many of these were possibly for trivial offences, *e.g.*, "Neglect of duty," 1,039, "Miscellaneous," 390, and we have the old crime of "Neglecting to present arms to Superintendent," 48; Judicial punishments numbered 75, "Suffering escapes" 28, and "Introducing forbidden articles" 18. There were 249 fewer offences recorded, but the number of employés was smaller, so that accurate comparison cannot be made.

The jail establishments have now all been completely re-organized, and, Dr. Macnamara reports, with complete success. "University graduates are asking for the post of Assistant Jailor, and old sepoys enrolling themselves in the Warder

ranks." Offences committed by prisoners show a decrease of 1,489, principally under the headings "Relating to Work" and "Forbidden Articles;" and it is pointed out, as well worth noticing, that the greatest diminution has taken place in those jails where discipline is most strict and surveillance most carefully exercised. The largest decrease is in the Lahore Female, where offences fell from 1,816 to 385, or a little over one-fifth. The decision as to what constitutes an offence must indeed be largely idiosyncratic, as we find the extremes, among "jails holding over 300 prisoners," of 1,150 offences in Dera Ghazi Khan and 424 at Ferozepore, while amongst "jails holding under 300 prisoners," Amritsur has 988 offenders and Kohat but 72! The most important fact, however, about the table under discussion is found in the footnote. "Habituals," who formed only 11 per cent. of the total "admissions," contributed 45 per cent. of the total punishments, so that evidently repeated confinement does not insure greater obedience to orders. Convict officials are reported to have worked, "on the whole, very well;" 976 of them were punished, but the number employed is not apparent. Expenditure has increased by Rs. 1,23,986, all items being contributory thereto, except that of establishment, which shows a reduction of Rs. 4,838.

Dietary charges alone exhibit an increase of Rs. 68,211 on the previous year; but food stuffs were approximately 33 per cent. dearer, and, had it not been for the forethought of certain superintendents who bought and stored in cheaper times, the increase would have been much greater. Each prisoner cost, on an average, Rs. 68-15-9, compared with Rs. 61-0-3 in 1895.

Convict labour earned Rs. 29,276-1-0 less than in the year 1895; but this would appear to be a fictitious calculation, Rs. 33,409 having been lost by a revision of charges for lithographic printing, which was ordered by Government. An increased profit is shown under many of the headings, and much of the decrease is accounted for.

The vital statistics detailed in Chapter VII are a matter for unalloyed congratulation. The figures speak for themselves:—

Ratio per mille of admissions to hospital ...	1'237
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" " " " daily average sick ...	31
---	----

" " " " deaths from all causes ...	15'69
---	-------

while the mortality among the free population stood at 31'3.

In 1892 the corresponding figures were 2,199, 47, 30'54 and 49'48, and the first three sets of figures have steadily decreased each year.

The conclusion to be drawn that the malefactor is with his regular supply of food, wholesome and plentiful; comfortable lodging, and the incalculable advantage of possessing a resident medical attendant, enjoys just double the chance of life

which is the lot of his less adventurous, but more honest fellow-countryman!

Annual Report of the Lunatic Asylums in the Punjab for the year 1896. Lahore : The "Civil and Military Gazette" Press: 1897.

THE information embodied in this report is clearly and concisely set forth, and the results obtained are apparently satisfactory. There are two Asylums in the Punjab, *viz.*, at *Lahore* and *Delhi*; but the housing of all the inmates in one building, which it is proposed to erect at Lahore, is under consideration. As a new building at that place would appear, for sanitary reasons, to be required, while the total number of lunatics requiring to be cared for is not excessive, the amalgamation would seem to be a desirable arrangement. The two Asylums are dealt with separately in the Report.

Lahore.—The total lunatic population for the year was 334, *viz.*, 262 males and 72 females, including 10 re-admissions.

When reviewing the report for 1895, His Honor the Lieutenant-Governor was rather dubious about the number of discharges, but events have apparently justified the action taken by the Superintendent, who would seem to exercise much judgment in the matter. Out of 38 certified as cured in 1896, none have as yet relapsed into insanity. The Superintendent himself asserts his anxiety to let as many of his patients go as he safely can, for two most excellent reasons: first, that the surroundings in any Asylum are prejudicial to permanent recovery; and, second, that the Lahore Asylum is an unhealthy one.

The percentage of cases cured on daily average strength is good, being 16·17, and the ratio of deaths is very small, 7·66, the average for the preceding 10 years having been 11·88.

Delhi.—In this Asylum the average daily strength was 118·22, *i.e.*, 86·71 males and 31·51 females, and the death-rate was even more wonderful than at Lahore, being only 3·39, as compared with 19·32 in the previous decade.

The percentage of "cures" has, however, fallen considerably, being only 10·15 to 17·98 in 1895, and 19·32 on the decennial computation. Delhi also shows a much higher number of re-"admissions," *viz.*, 46; and yet "discharges" were only 18 per cent., compared with 29 at Lahore.

Lahore.—Criminal lunatics averaged 61·24, being about one-fourth of the population of the Asylum. At the close of 1895 there were 54 of these individuals confined, of whom 18 had been acquitted on the ground of insanity, 30 were incapable of making a defence, and 32 became insane while in prison, a startling proportion of two-thirds apparently driven mad by imprisonment!

Delhi.—gave shelter to a much smaller proportion of criminal lunatics, one-ninth of the population. There were 13 individuals of this class under restraint at the close of the year, only 2 of whom are returned as having lost their senses while in confinement, or less than one-sixth, contrasted with two-thirds at Lahore.

Two lunatics, one criminal and the other non-criminal, escaped from custody at Lahore, but in neither case were the establishment adjudged in fault. From Delhi there were 4 escapes, 3 of the men being criminals and of unproved insanity. The Warders in charge were, however, in each case, severely punished.

The period between the ages of 20 and 40 appears to be the most common for the disease of insanity to become apparent, 113 being entered as between those limits, as against 17 below 20, and 36 from 40 to 60 years. "Mania" is the most general form of the affliction, claiming 111 victims, as against "Idiocy" 9, "Melancholia" 17, and "Dementia" 5.

The report shows a substantial increase in expenditure, both at Lahore and Delhi; but this is satisfactorily and intelligibly accounted for.

CRITICAL NOTICES.

My Run Home. BY ROLF BOLDREWOOD. Macmillan and Co., London.

WE hail Mr. Boldrewood's return from the region of pure romance to that of adventure with unmixed satisfaction. In the latter, whether dealing with the old country or the Australian bush he is thoroughly at home, and knows as well as anyone how to tell of thrilling escapades and daring feats of horsemanship in a manner that is wholly satisfying to all who delight in dash and go and are not too sensitive with regard to grammar and style. We are not quite sure how far the writer is to be taken in earnest in "*My Run Home*," but there is abundant proof that his facts are plentifully admixed with fiction. If we are to take him quite literally, Australia is a very wonderful country and her sons and daughters partake of her fascinations, and are not only gods and goddesses as to physique, but are more than capable of holding their own against all comers in the matter of sport, whether it be racing, hunting, billiards, the noble art of self-defence, or the more gentle pastime of archery. Nor, it must be confessed, do they appear to be at all backward in the game of "brag." However, Mr. Boldrewood's descriptions of hair-breadth escapes in the hunting field, on the race course, &c., &c., are exceedingly good reading, one of the best being that which deals with the taming of the "*Pirate*."

Thinking something after this fashion, and feeling a world of old recollections rushing in panoramic rapidity through my brain, I took the reins mechanically, and motioned to the groom to leave the horse to me. An Australian always prefers not to have a restive horse held. 'The Pirate' snorted and sidled. He did not know me and consequently did not like me. He turned round several times, and evidently intended to resist even the preliminary stage of mounting. I thought I would favour him with a bush invention. Holding the reins tightened in my bridle-hand, I secured his left ear, and giving it a severe screw, the pain of which rendered him motionless for a few seconds, I mounted lightly, and had my boot well home in the off stirrup before the outwitted animal fairly understood the move. Then fairly aroused, he gave one tremendous plunge, and the fight commenced. Plunge after plunge followed each other, while a succession of kicks high enough to threaten the hat on my head was indulged in, with startling rapidity. A horse of immense power and in high condition, confident and obstinate as is every horse that has gained victories over man, he tried every mode and violent effort known to him to unseat me—all in vain! Proof against the awful galvanic shocks, the lightning side-lunges, the fierce, complicated,

deer-like bounds of the Australian buck jumper, unmouthed, unbitted, almost unhaltered—

Wild as the wild deer, and untamed,
By spur and snaffle undefiled—

I was not to be shaken by a thoroughly broken hunter, unable to get his head down, and behind whose splendid shoulders I sat like a rock. After a sharp rally, and the performance of what 'The Pirate' and the spectators considered to be a perfectly unparalleled feat of horsemanship on my part, the partially subdued animal stood stock-still. A cheer burst from the crowd. But the victory was not gained. Rearing wildly, the savage brute trembled on the balance, until I thought he was actually coming over. Leaning forward on his neck, I drew one foot on to the saddle and waited to see which end would touch ground first. I pulled hard on the bit, knowing by experience that a rearing horse always bores down contradictingly, as if you wished to pull him backwards. As he lowered his head and placed his forefeet upon the turf again, I sent in the 'Latchfords' so unreservedly, that with an angry snort he snatched at the bridle, took the bit in his teeth, and stretched out in the full glory of his mighty stride. I headed him for the hedge and ditch, at the break of the shrubbery, and let him go. Before getting near the leap, I indulged him with a give-and-take pull or two, which might have loosened a tooth, but had no effect upon his pace. At racing speed we neared the ditch, on the other side of which was a bank with a low hedge and a single rail. The ditch was broad and deep, so that the rail, about three and a half feet high, was found to be sufficient protection. I steadied him ever so slightly, and sitting still and lying pretty well back, in case of accidents, the desperate brute flew the ditch, but scorning to rise, struck the strong oak-rail with his knees, and snapping it at the ends, carried it out before him like a bulrush. He made not the slightest stagger or stumble, but still strode on, as if the boundary of the county was the natural halting-place. A short mile and yonder are the pollard willows and rushy banks of the brook. It is a wide jump, and at places not too good at the take off. By this time, with alternate slackenings and such sudden drags at the powerful bit as nothing short of a Spanish bull could afford to despise, I am commencing to demonstrate to him what double-bridles are made for. He gives his head a little. He comes on terms. As we near the brook, he collects himself, and racing at it, takes it in what appears to be a mere extension of his stride. I gain the edge of the spinney, turn, and when he has swept over the wide water-jump for the second time, I am confirmed in my conviction that I have under me one of the grandest hunters that was ever backed. 'Jump!' old Patcham had said, with an expression of withering scorn, as applied to the intellect of that person who could, after looking at 'The Pirate's' quarters, doubt his ability 'to clear a town,' 'that's what makes it so hard to bear. He can gallop equal to anything of his year, and jump any mortal thing. Oughtn't that to be a fortune to any man, sir? And to think that I should lose it, all along of his wicked temper. It makes me feel unchristian, sir, so it do.' The pace, the leaps, the conflict had rather subdued 'The Pirate' by this time; so before taking the fence by the shrubbery, I managed to have him pretty well in hand. He deferred to the bridle, lowered his head, and 'gave' peaceably to the compelling curb.

Picking out a wide place and a good hog-backed rail, I sent him at the rail pretty fast, and perhaps remembering its sharp contact with his knees when outward bound, he made no such blunder returning but sailed over ditch and bank and rail after a fashion that

elicited a tremendous cheer from the excited crowd which stood on the lawn to see the run in. As I pulled up the sobered horse upon the lawn, and handed him over to the groom, I was conscious of being the hero of the hour.

During his travels the writer visited Ireland, where he temporarily lost his heart, which was, however, ultimately recovered, but at the expense of some of his faith in the fair ones of the Emerald Isle. It is amusing to learn that the great Irish novelist, Lever, is not so much appreciated in his own country as in ours. He appears to be regarded as having libelled and ridiculed his countrymen in the droll and rollicking pictures he drew of them, a fact which certainly seems to show that, after all, the Irishman is wanting in a certain sense of humour.

'That's the best thing I've heard for some time,' quoth I approvingly. 'Good enough for Charles Lever—eh Daly?'

But to this there was no response. A general coldness at the name of the famous novelist seemed to creep over the merry company. It was odd enough that, not for the first time, I had noticed that this prophet had at any rate no honour in his own country. Why it should be I am unable to divine. As a stranger and a foreigner I cannot of course pretend to say of what delicate distinctions of Irish humour he may have failed to take account. He has represented them as a devil-may-care, droll, sensitive, chivalrous nation, so keenly alive to humour that they could jest on the scaffold; holding high the standard of honour, and preferring death to the loss of it; from the lowest to the uppermost strata of society ready to sacrifice present prosperity to bygone sentiment, but loving home and kindred with that unreasoning passion which no thought of gain can change or destroy.

It may be that he was wrong; that his keen observation, his life-long experience were at fault, and that his countrymen are in reality a grave, sententious, reserved, money-making people, moved to relaxation only by the purest Attic wit, and always suspending judgment until convinced by a logical arrangement of facts. This is the character apparently which every Irishman thinks photographically correct of himself, therefore of his countrymen. So poor Lever is voted in Irish society to be hardly 'good form,' rather broad and unrefined, but smart enough to amuse outsiders—Englishmen, Americans, Australians, and so on.

In mixing his facts with fiction Mr. Boldrewood is, if we are not very much mistaken, sometimes a little out in his chronology. Judging from the fact that he met Thackeray on a Channel steamer in the year preceding the novelist's death, he must have made his trip in 1862, and yet we find him alluding to Thomas Castro as the claimant to the Tichborne estates. The famous Tichborne trial did not come off till ten years later and the public knew very little of the claimant before that time. Again we find him referring to "the days of Charlotte Bronte" as though that lady had been dead a century, instead of only seven years. These, however, are only trifling blemishes and the book can be recommended as thoroughly wholesome, breezy and, at times, thrilling.

Monograph on Dyes and Dyeing in Bengal. BY N. N. BANERJEI, B.A., M.R.A.C., Assistant Director of Land Records and Agriculture, Bengal. Calcutta: Bengal Secretariat Press, 1896.

MR. Banerjei's Monograph on Dyes and Dyeing in Bengal, prepared in accordance with instructions from the Government of India, partakes somewhat of the character of a funeral oration. "Whatever degree of perfection dyeing may have attained in past times," says the author, "at the present day it does not occupy a very prominent place in the list of industries of this country." The ruin of the industry is really much more complete than this very moderate statement might seem to imply. The Census Report of 1891 gave the total number of cotton-dyers alone in the different Divisions of Bengal as 20,786; and, besides these, there were many dyers of silks and other materials. The decay of the industry had even then gone very far; but since then its decline has been increasingly rapid, till to-day it is almost extinct throughout the greater portion of the Province; and, though it is still practiced to some extent in Central Bengal, it is only in Behar, and especially in the district of Patna, that the number of persons engaged in it is still considerable, while even in Patna the number has fallen off by probably not less than ninety per cent. during the last six years. Silk-dyeing still prevails to some extent in Murshidabad, where nine families, employing, perhaps, fifty workmen in the aggregate, are engaged in the craft, and on an even smaller scale in Bankura, Maldah and Bogra; but in all the other silk districts it has entirely died out, while printing is confined almost wholly to Patna.

According to Mr. Banerjei, it is the importation of cheap European goods and aniline dyes that are the chief causes of this decay, and he appears to attach the greatest importance to the latter cause. "Whereas formerly," he says, "when a person wanted to wear a coloured cloth, he was compelled to go to the dyer, who alone knew the complicated processes by which colours could be produced from the indigenous products of this country, he now mixes up European chemical powders himself and simply dips his cloth into a solution of the powders, when a coloured garment is ready for his use." But he also finds other causes of the decay in "want of ingenuity in the production of colours and designs," absence of any attempt on the part of the native dyers to "change their crude processes," and want of capital.

There can be no doubt, we think, that it is largely to the decay of the weaving industry that that of dyeing is due.

Dyers, as a class, were probably never rich ; and it is not surprising, under these circumstances, to learn that they are now very poor. On this head we are told :—

“Their ordinary earnings do not exceed Rs. 8 per month, and in order to maintain their families, they have to take service and ply various trades, carrying on dyeing only as a part of their work. Some have their own lands to cultivate, and as a rule these are in better circumstances. The poorest class of dyers do not earn more than Rs. 3 to Rs. 5 per month, but there are others also who earn as much as Rs. 12 to Rs. 15 per month. Owing to the greater demand for their work, dyers in Calcutta, as a rule, are better off than their brethren in the interior. Exceptional cases may be found of rich dyers in the mufassal, who have a large number of subordinates working under them, and who get more than the earnings quoted above, *e. g.*, in Patna there are some dyers who earn as much as Rs. 50 per month ; in Gaya one rich dyer is said to earn an income of about Rs. 900 a year, two or three others earn about about Rs. 300 to Rs. 500 a year. All these remarks apply to cotton-dyers. The poorest class among the dyers, if they be so considered, are the *doms* who colour baskets and other bamboo articles. Their earnings do not exceed Rs. 3 to Rs. 5 per month. The *chamars* who dye leather, are better off, earning from about Rs. 7 to Rs. 15 per mensem. Potters who dye their earthen pots are generally well off, owing to the great demand for such vessels among all classes of Hindus. Dyeing carpenters, or *Rangsazes*, also are, as a rule, in good circumstances, and earn from Rs. 10 to Rs. 20 per mensem. Silk dyers as a class are in better circumstances than those who dye cotton. Their ordinary earnings vary from Rs. 10 to Rs. 12 per month. Rich silk dyers are to be met with who employ subordinate workmen to carry on their work. There are said to be about nine families of such dyers in Murshidabad, whose net profits average to (*sic*) about Rs. 500 a year. The business of silk dyers depends generally upon the conditions of the silk trade of the districts in which they have their shops. Like dyers, calico printers do not ordinarily earn more than Rs. 6 to Rs. 8 per month. At the Serampore printing shops, the proprietors are said to earn from Rs. 20 to Rs. 25 per mensem. The experts employed by them earn from Rs. 10 to Rs. 15 a month, and the boys under the pressman get Rs. 5 per month. In Calcutta, the ordinary earnings of a printer amount to about Rs. 15 per month.”

The author includes in his Monograph a painstaking account of the principal dye-stuffs in use, as well as of the processes and appliances employed for the dyeing both of cloths and thread and of other materials ; but it is to be feared

the interest that attaches to these details is little more than historic.

The work is illustrated with photographs of dyers and printers at work, as well as with coloured diagrams of patterns used in printing, which are of more lasting interest; and in one of the appendices specimens of cotton material dyed in twenty different colours, by native dyers, are given, with the vernacular names of the different colours.

The Fall of a Star. BY SIR WILLIAM MAGNAY, BART.
Macmillan and Co., London.

IN "The Fall of a Star," Sir William Magnay has prepared for his readers a sensational feast not unworthy of Wilkie Collins or the creator of "Sherlock Holmes." He has shown considerable skill in working up the plot to a dramatic climax, the curtain being rung down on the tragedy at the moment when the hero, a political star of the first magnitude, has reached the height of his ambition and seems to have the world at his feet.

The morning papers rang with the praises of Carstairs. The Ministry's wonderful escape was related and discussed from various points of view, and coloured by different shades of political feeling; but all, friends and foes alike, joined in one common panegyric on the man who had saved it. His name was at every street corner and in everyone's mouth. His fame, "gathering strength by flying," grew greater in volume hour by hour as the day wore on. Increasing movement and intercourse of chatterers multiplied it until, through the length and breadth of the kingdom, one man dominated men's thoughts, and that man—ah! if they had but known!

Had they but known that the irony of fate had decreed that in this, the hour of his triumph, his sin should find him out, and that, while they were singing his praises, he should expiate it with his life. The reader is purposely, perhaps, left in some doubt as to the degree of culpability attaching to the man regarding the death of Esther Clavadel; but whether he deliberately planned her murder or not, he becomes henceforward a murderer, and his gradual descent on the path of crime is well described in the workings of his own mind when in his last extremity.

He tried to adjust the actual degree of moral obliquity in his own nature: to gauge the preponderance of bad over good in his character: to determine his true position between the here he was to the world, and the villain he seemed to Royde and Loveland.

The death of Esther Clavadel had been his turning-point. From thenceforward the descent of Avernus had indeed been easy. But her death? The mad impulse of an instant; the sudden contraction of a muscle left for a moment uncontrolled by mind, and the deadly agent of the man of science had done its work beyond recall. Murder? No. Not of that wilful girl. But in his heart, his con-

science, his intellect—yes. From that moment he had been a murderer—before that fatal pressure he had been innocent of the very thought. Thenceforth, faced by the consequences of his act, men's lives had seemed of no consideration to him compared with his own; he would have poisoned a whole county in cold blood to save himself.

Was that indeed his state? Yes. Of that he had no doubt. It was a certainty to him; more sharply defined now than ever in the sudden clearness of his brain.

The story is a gruesome one, but original in conception and told with some power; and to those who like their fiction seasoned with mystery and crime, it will prove very fascinating reading.

The Philanderers. By A. E. W. MASON. Macmillan & Co., London,

THERE are probably very few persons who read *The Courtship of Morrice Buckler* will open a new book by Mr. Mason, with a considerable amount of pleasurable anticipation. Among these there will certainly be few who will not lay down *The Philanderers*, his latest work, with a sense of disappointment. The writer this time deserted the paths of quasi-historical romance and attempted a novel on totally different lines which treat of society persons of a very modern and altogether uncongenial type. We say attempt advisedly. Making all allowance for its occasional merits in the way of dialogue and insight into character, we cannot but regard the book as a serious falling off from Mr. Mason's usual standard. The characters are all—not excepting Stephen Drake, the hero—unsatisfactory; most of them are contemptible, and although we are ready to admit that in this they fulfil the writers' intention and justify the title of the book, we are of opinion that they are not the right material of which to make a really interesting novel. There is, moreover, nothing in the story of sufficient power to blind one to Mr. Mason's lapses in English, which are so frequent as to suggest undue haste in the writing of it. Such sentences as "I don't see what right you have got to *marching* into other people's country," "It looks as if he *was* declining in favour," "You are *very interested* in it," &c., &c., are a little trying to the patience of the critic. We hope that, before we meet Mr. Mason again, he will have returned to his old love, and that, instead of the flabby, mean-spirited personages to whom he has introduced us in the book under review, he will give us the more picturesque and robust characters with whom he first charmed his readers.

Maria Theresa. BY REV. J. FRANCK BRIGHT, D. D., Master of University College, Oxford ("Foreign Statesmen" Series). London: Macmillan and Co., Limited. New York: The Macmillan Company, 1897.

Joseph II. BY REV. J. FRANCK BRIGHT, D. D., &c., &c. ("Foreign Statesmen" Series). London: Macmillan and Co., Limited. New York: The Macmillan Company, 1897.

THESE two volumes contain an admirably clear and readable account of the politics, internal and external, of the Austrian Empire during the most critical period of its history—1740 to 1790—, a period which covers the War of Succession, the Seven Years' War, the Partition of Poland, and the establishment of Belgian independence. We could wish that the author had given us an ampler account of the private life and relations of the Empress, who, of all the women who have ruled in their own right in Europe, is, perhaps, the most sympathetic; but this, it may be, would have been foreign to the purpose of the series.

Whether in her relations to her husband, to her children, or to her ministers, Maria Theresa exhibited throughout the same unwavering loyalty, the same unselfish devotion, the same nobility. Her attitude at her husband's coronation furnishes a touching instance of these qualities. "In spite," says Dr. Franck Bright, "of the orders of the Elector-Palatine, who had joined Frederick in his protest at the late election, she was received enthusiastically at Heidelberg, and in the midst of a perpetual triumph reached Frankfurt, where all the world expected and hoped that she herself would also be crowned. But she declined the honour. Her health, for she was expecting a child, was alleged as the excuse. The meaner motive of jealousy has been suggested; much more probably it was her wisely feeling which kept her away from the ceremony. Experience had, no doubt, taught her that her husband was not the tower of strength she had hoped to find him. She had already learnt how superior she was to him in every respect. But her love remained constant. She naturally shrank from putting herself forward, conscious that, had she been there herself, she would have of necessity been all in all and her husband nothing; and she was determined that the day should be his triumph and not hers. The mixture of domestic affection, the part which the wife and mother played even in her political action, is one of the characteristics of Maria Theresa which explains the enthusiasm felt for her. Though she refused to be crowned, she had no scruple in showing herself publicly during the festivities. As her husband came home from the solemnity, she ran out to meet him,

waving her handkerchief and joining in the applause of the crown. We are even told—and the little trait is worth mentioning—that she took off her gloves, that the clapping of her hands might be the better heard.”

Of the effect on her of her husband's death, again we are told :—

His death was a terrible blow to Maria Theresa. For a while her mind seemed almost paralysed, and the effects were of a lasting character. Her domestic life was shattered, as many another woman's has been, when the light and joy of her life passed out of it. It seems almost impertinent to follow her in her sorrow. But, in fact, it was her true woman's heart, underlying all her political conduct and her imperial show, which made her so lovable and interesting a person ; and in her sorrow her behaviour was intensely womanly. Though her married life had been on the whole very happy, though she had always devoted herself to her husband's comfort in a way which is simply astonishing considering all the work which rested on her, she now blamed herself for a thousand fancied deficiencies. Though she had long since discovered her own superiority and the futility of her early hope that her husband would be a strong support to her steps, she now pictured him as he had seemed to her in her girlhood, and never spoke of him but as a wise and great ruler. She carried the outward expressions of her mourning almost to excess ; she cut off her hair, wore no jewels, gave away her wardrobe, and lived ever after in rooms draped with black or grey. She could at first bear no signs of gaiety in those around her ; even the wearing of rouge was prohibited. She declared in the first moments of her grief that she had done with the world for ever, and would leave henceforward all business to her son.

Of her fidelity to her Ministers, speaking specially of Kaunitz, her Chancellor, the author says : “ Again and again in the time of crisis Maria Theresa had proved that she was the most faithful of friends. No failure, no mistake seemed able to overshadow her admiration if once excited ; her confidence, once given, was given wholly and never withdrawn.”

When, hurt by the determination of the Empress to associate Count Stahrenberg with him in the work of the chancellorship, though not in its dignity, Kaunitz requested to be allowed to resign, she was inconsolable, and answered him in words of almost passionate friendship :

“ Would he desert her at a moment such as this, when she had just succeeded in securing his influence over her son ? What had become of his warm heart ? had suspicion or envy taken possession of it ? or was she herself to blame ? If so, why had he not told her ? He knew that she had always begged him to speak to her of her faults. She could not believe that his great heart could be poisoned by low-minded jealousy, or by the belief that she would listen to idle prattle. She had learnt in her sad life the fickleness of friends, but had always thought she had one on whom she could rely, and was restful and content. Let him judge of her disappointment. She entirely refused to accept his resignation, and promised never again to speak a word of reproach to him. Her anger was over. One condition alone she claimed, that, whenever a cloud of suspicion rose between them, he

would speak direct to her on the subject, and listen to no one else. And then, in words full of covert flattery, she couples him and his work with herself, as the saviours of the Austrian State, saying that his health must be supported so that he may train others to carry on their work after her death. 'Let us die with weapons in our hands. Such is the only permission and advice that your mistress and firm friend can give you.'

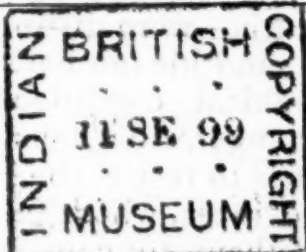
Of her well-intentioned and intellectually able, but imprudent and unfortunate, son, Joseph, who was co-regent with Maria Theresa during the later years of her reign and ultimately succeeded her, Dr. Franck Bright says :—

Many and various verdicts have been passed on Joseph's character. A pedantic philosopher upon the throne; a meddling busybody who could not leave well alone; a high-handed doctrinaire, trampling beneath him all the natural sentiments of his subjects; a reckless free-thinker. A man of extraordinary enlightenment, suffering the fate of all whose intelligence places them in advance of their age; a real lover of the human race, whose every act was directed to the general advantage; martyr and victim to ignorance and ingratitude. Such may be taken as examples of the various verdicts passed upon him. To the writers of his own time, especially if they happened to have views which collided with his, he is the incarnation of arbitrary ambition. Yet in truth, although there are certain episodes in his policy which give some colour to the charge, his attitude with regard to the other states of Europe seems to have been generally defensive. It is too much to expect that any man should quite avoid the prevalent feelings of his class and time, and the patriotism of rulers in the middle of the eighteenth century went always with the desire for territorial acquisition. No doubt Joseph felt the impulse, and sometimes yielded to it. But the great instances alleged against him—the attempt, for example, to acquire Bavaria—were distinctly of a defensive character. He was deeply convinced, and his mother's history justified the conviction, that the geographical conditions of the Austrian empire exposed it to unusual danger. To consolidate his widespread dominions and form a solid mass to resist the Prussians and the Turks; to be free of distant provinces, whose proximity to his great rivals in Western Europe exposed them to constant danger, would seem to have been his real object. No doubt, in his war with Turkey he aimed at acquiring considerable and valuable additions to his dominions. For the love of trade was strong in him, and he desired free access to the Adriatic Sea. But his primary object was partly to break the power which was a standing threat to his southern frontier, partly to gratify the Czarina, with whose assistance alone he believed himself capable of withstanding the increasing strength of Prussia. From the first, he had learnt to look upon Russia as his only valuable ally. So far from desiring to increase his empire at the expense of Prussia, it is plain from his letters that he lived in constant dread of that power; and it seems likely that, had it not been for the inveterate prejudices of his minister, he would even have sought, when opportunity offered to form a close connection with it.

If to speak of Joseph as ambitious without qualification is to give an erroneous view of his character, it is no less misleading to attribute to him in his domestic government a love of despotic rule. It was his intense belief in the excellence of the measures he was taking, coupled with the hold which his fundamental theory of the State had upon his mind, which frequently gives (*sic*) his action this appearance.

Of the reforms themselves, it must be confessed that there is scarcely one which, carried out under different circumstances, would have failed to produce excellent results. With the exception of a few unimportant ordinances, almost whimsical in their exaggeration, they all breathed a spirit of enlightenment and humanity. They were all directed to the realisation of a very high ideal. They were generally well adapted to the objects sought, and in many instances, in spite of the opposition they encountered, have stood the test of time. That feudal Austria, full of the worn-out relics of the middle ages, has become an empire not unfitted to hold a forward place in the society of modern times, is chiefly due to the legislation of Joseph.

The verdict is one in which most generous critics will concur.



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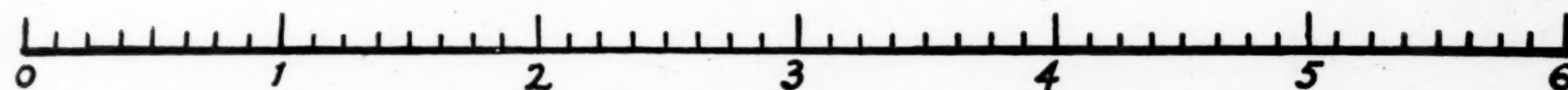
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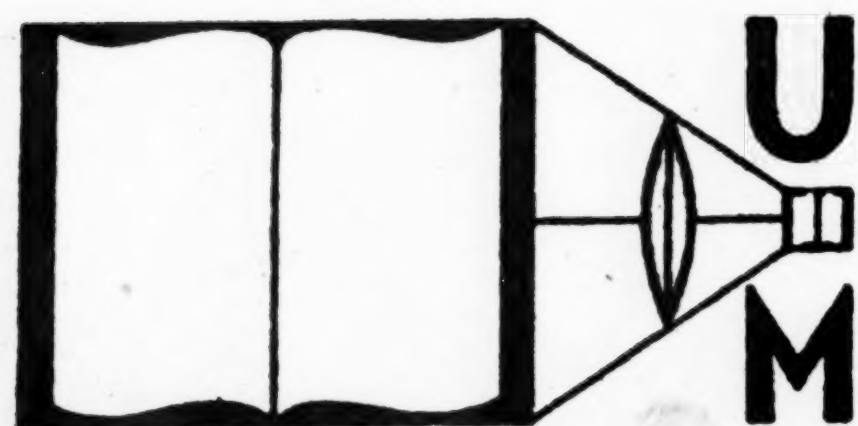
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